The Huxley Lecture

ON

HE SCIENTIFIC INVESTIGATION OF THE PSYCHICAL FACULTIES OR PROCESSES IN THE HIGHER ANIMALS.

Delivered at Charing Cross Hospital on Oct. 1st, 1906,

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(*Specially translated for* THE LANCET.)

R. PRESIDENT AND GENTLEMEN,—The address which I now the honour of delivering is in memory of Thomas ley, at once an eminent representative of natural science a most strenuous champion of that great biological ciple, the doctrine of evolution. The subject of my will be the Scientific Investigation of the Psychical ulties or Processes in the Higher Animals (*die psychische keit der höheren Tiere*).

ith your permission I will first give a description of a which is taken from life as it actually occurred in my ratory some years ago. Among my colleagues in the ratory there was a young medical man who took a tinent position and we saw that he had an active mind h understood the joys and the triumph of the spirit of arch. When I was making arrangements for the tigation of the psychical processes in the dog by the methods and in the same laboratory as had been oyed until that time for the solution of various iological questions, I found to my great astonishment as soon as he heard of my intentions this faithful d of our laboratory manifested great displeasure. ur arguments were in vain. He prophesied failure in r direction and hoped that it would come to pass. So s we could understand him, the cause of all this was he had formed the idea that the psychical life of man the higher animals was a subject so exceptional and so d that there was not only no possibility of it being ected to successful analysis but that it even seemed to utterly profaned by the coarse methods of our iological laboratory. This might perhaps have been a of exaggeration by an individual, but I nevertheless ve that it is very typical and characteristic. The must not be overlooked that in dealing on consistent iples with the highest vital phenomena science will not le to avoid misconception and opposition on the part of ns who have hitherto been accustomed to regard these omena from another point of view and to consider that point of view is the only proper one.

PSYCHOLOGICAL DEFINITIONS.

herefore look upon it as my duty in the first place to in quite clearly the point of view from which I regard o-called "mental processes" (*seelische Tätigkeit*) of the r animals, and in the second place to pass as soon as ble from the preliminaries to the subject itself. It was ithout intention that I used the adjective "so called" in ing of "mental processes." If a *complete analysis* of the ical faculties of the higher animals be set as a problem n investigator, he has no right to speak of such faculties sting in these animals, and in fact he cannot do so out being unfaithful to the principles of natural science (*rwissenschaft*). Natural science is a product of the ition of the human mind when it is directed upon nature investigates it without deriving any explanations or whatever from any sources except the natural mena of our environment. If he (the investigator) to speak of the psychical faculties of the higher animals ould be transferring ideas from his own inner consciousness to natural phenomena with the result that there would repetition of what men did when they first turned their this to the consideration of nature and attributed to mate objects their own intelligence, will, and sensa- For a consistent investigator there is in the higher ctly one thing to be considered—namely, this, that or the other external response of the animal to ext impressions (*die Erscheinungen der Aussenwelt*). response may be extremely complicated in compa with the reaction of animals of a lower class infinitely complicated in comparison with the resp of any inanimate object that could be named, but principle involved in the question remains the sa Strictly speaking, natural science is under an obl tion to determine only the precise connexion which ex between the given natural phenomenon and the respon faculty of the living organism with respect to this phe menon—or, in other words, to ascertain completely how given living object maintains itself in constant relat (*Gleichgewicht*) with its environment. This assertion hardly be contested and is further supported by the fact t it receives daily more and more general acceptance in investigation of the lower and intermediate stages of t zoological scale. The question is simply whether this l is now applicable to the examination of the higher functio of the higher quadrupeds (*Tiere*). A serious endeavour institute inquiries in this direction is, as it appears to m the only reasonable answer to this question. I and r esteemed colleagues in the laboratory, who are now ve numerous, began this work some years ago and we ha recently devoted ourselves to it almost completely. I wou now ask for your kind attention to an account, firstly, of tl most important results of this inquiry, which seems to m to be very instructive; and, secondly, to an account of th inferences which may be drawn from it.

REFLEX STIMULATION OF THE SALIVARY GLANDS.

All our experiments were made on dogs. The only re sponse of the animals to external impressions was a physic logically unimportant process—namely, the excretion o saliva. The experimenter always used perfectly norma animals, the meaning of this expression being that th animals were not subjected to any abnormal influence durin the experiments. By means of a systematic procedure easy of manipulation it was possible to obtain an exact observation of the work of the salivary glands at any desired time. It is already well known that there is always a flow of saliva in the dog when something to eat is given to it or when anything is forcibly introduced into its mouth. In these circumstances the escaping saliva varies both in quality and quantity very closely in accordance with the nature of the substances thus brought into the dog's mouth. Here we have before us a well-known physiological process—namely, reflex action. The idea of reflex action as a special elementary function of the nervous system is an old and well-established truism in physiology. It is the response of the animal to external influences, a response which is accomplished by the aid of the nervous system. The force exerted from without is transformed into a nervous impression which is transmitted by a circuitous route from the peripheral extremity of the centripetal nerve through the centripetal nerve, the central nervous system, and the centrifugal nerve, ultimately arriving at the particular organ concerned and exciting its activity. This response is specific and permanent. Its specificity is a manifestation of a close and peculiar relation of the external phenomena to physiological action and is founded on the specific sensibility of the peripheral nerve endings in the given nervous chain. These specific reflex actions are constant under normal vital conditions, or, to speak more properly, during the absence of abnormal vital conditions.

CONDITIONED AND UNCONDITIONED REFLEX ACTION.

The responses of the salivary glands to external influences are, however, not exhausted by the above-mentioned ordinary reflex actions. We all know that the salivary glands begin to secrete, not only when the stimulus of appropriate substances is impressed on the interior surface of the mouth, but that they also often begin to secrete when other receptive surfaces, including the eye and the ear, are similarly stimulated. The actions last mentioned are, however, generally considered apart from physiology and receive the name of psychical stimuli. We will take another course and will endeavour to restore to physiology what properly belongs to it. These exceptional manifestations unquestionably have much in common with ordinary reflex action. Every time that there is a flow of saliva attributable to this cause the occurrence of some special stimulus among the external influences may be recognised. On very careful exercise of his attention the observer perceives that the number of spontaneous flows of saliva forms a middle-diminishing series and it is in the highest degree probable that those extremely infrequent flows of saliva, for which no particular cause is at first sight apparent, are in reality the result of some stimulus invisible to the eye of the observer. From this it follows that the centripetal paths are always stimulated primarily and the centrifugal paths secondarily, of *course with the interposition of the central nervous system.* Now these are actually all the elements of a reflex action, the only missing points being exact data as to the operation (*Bewegung*) of the stimulus in the central nervous system. May we regard these as ordinary reflexes? Speaking generally, our phenomena are reflexes, but the difference between these newly recognised reflexes and the long-known ones is manifestly immense, for they are assigned to quite different departments of science. Physiology has therefore before it the problem of evaluating this difference experimentally and of establishing the essential properties of the newly recognised reflexes.

In the first place they arise from all the bodily surfaces which are sensitive to stimulation, even from such regions as the eye and the ear, from which an ordinary reflex action affecting the salivary glands is never known to proceed. It must be observed that ordinary salivary reflexes may originate not only from the cavity of the mouth but also from the skin and the nasal cavity; the *skin, however,* produces this effect only when it is subjected to some destructive process such as cutting or erosion by caustics, while the nasal cavity produces this effect only through the contact of vapours or gases, such as ammonia, which cause local irritation, but never through the agency of odours properly so-called. In the second place, a conspicuous *feature of these reflexes is that they are in the highest* degree inconstant. All stimuli introduced into the mouth of the dog unfailingly give a positive result in reference to the secretion of saliva, but the same objects when presented to the eye, the ear, &c., may be sometimes efficient and sometimes not. In consequence only of the last-mentioned fact we have provisionally called the new reflexes "conditioned reflexes" (*bedingte Reflexe*), and for the sake of distinction we have called the old ones "unconditioned" (*unbedingte*).

The further question naturally arose whether these conditions which determine the occurrence of the "conditioned reflexes" could be investigated and whether a complete understanding of these conditions would make it possible to impart to these reflexes a character of constancy. This question must be at once regarded as answered in the affirmative. I will remind you of some rules which have been already published. Every conditioned stimulus becomes totally ineffective on repetition, the explanation being that the reflex action ceases. The shorter the interval between the separate repetitions of the conditioned reflex the more quickly is this reflex obliterated. The obliteration of one conditioned reflex does not affect the operation of the others. Spontaneous restoration of the obliterated conditioned reflexes does not occur until after the lapse of one, two, or more hours, but there is a way in which our reflex may be restored immediately. All that is necessary is to obtain a repetition of the unconditioned reflex, as, for instance, by pouring vinegar (*Säure*) into the dog's mouth and then either showing *it to him or letting* him smell it. The action of the last-mentioned stimuli, which was previously quite obliterated, is now restored in its full extent. If for a somewhat long time, such as days or weeks continuously, a certain kind of food is shown to the animal without being given to him to eat it loses its power of imparting a stimulus from a distance,[1] that is, its *power of* acting on the eye, the nose, &c. These last-mentioned facts show plainly the close connexion which exists between the stimulant effects of various properties of a substance—namely, between the effects of the properties which excite secretion of saliva when the substance is in the mouth and the effects of other properties of the same substance acting upon receptive surfaces in other parts of the body. We may, therefore, with propriety, say that the conditioned reflex is in some way *dependent* on the unconditioned reflex. At the same time we see also the mechanism which is necessary for the production of our conditioned reflex. When an object is placed in the mouth some of its properties exercise an action on the *simple reflex* apparatus of the salivary glands, and for the production of our conditioned reflex that action must synchronise with the action of other properties of the same object when the last-mentioned action, after influencing other superficial parts of the body that are sensitive to such stimuli, arrives in other parts of the central nervous system. Just as the stimulant effects due to certain properties of an object placed in the mouth may be associated *as regards time* with a number of stimuli arising from other objects, so all these manifold stimuli may by frequent repetition be turned into conditioned stimuli for the salivary glands. Such stimuli may proceed from the man who feeds the dog or who forcibly introduces certain articles into his mouth, or they may owe their origin to the general environment in which this takes place. For this reason the *above-mentioned experiments*, by which the *laws* of the conditioned reflexes must be determined, require for their performance a well-trained experimenter who can really investigate only the action of the given conditioned stimulus or a definite number of such stimuli, without introducing unknown to himself new stimuli in each successive repetition. If this last condition is realised the rules in question will naturally be obscured. It must be remembered that in feeding a dog or forcing *something* into his mouth each separate movement and each variation of a movement may by itself represent a conditioned stimulus. *If that is the case, and if our hypothesis as to the origin of* the conditioned reflex is correct, it follows that any natural phenomenon *chosen at will may if required* (*auf Befehl*) be converted into a conditioned stimulus. This has in actual fact been proved to be true. Any ocular stimulus, any desired sound, any odour that might be selected, and the stimulation of any portion of the skin, either by mechanical *means or by the application of heat or cold,* have in our hands never failed to stimulate the salivary glands; although they were all of them at one time supposed to be ineffective for such a purpose. This was accomplished by applying these stimuli simultaneously with the action of the salivary glands, this action having been evoked by the giving of certain kinds of food or by forcing certain substances into *the dog's* mouth. These artificial conditioned reflexes, the product of our training, showed exactly the same properties as the natural conditioned reflexes previously described. As regards their obliteration and restoration they followed essentially the same laws as the natural conditioned reflexes. We believed that we might justly take it for granted that the correctness of our analysis of the origin of the conditioned reflexes had been practically proved.[2]

Now that so much has been adduced on the subject we may advance further in the comprehension *of the conditioned reflexes than was possible at the outset. In the* manifestations of *nervous* energy which have up to the present time been submitted to careful scientific examination (our old specific reflex) the stimuli with which we had to do were comparatively few in number but were constant in action and there was abundant *evidence of* a constant connexion existing between certain external influences and definite physiological effects. Now, however, in another more complicated portion of the nervous system we encounter a new phenomenon—namely, the conditioned reflex. *On the* one hand, the nervous apparatus is responsive in the highest degree—i.e., it is susceptible to the most varied external stimuli, but, on *the other* hand, these stimuli are not constant in their operation and are not uniformly associated with a definite physiological effect. At any given moment we find comparatively few circumstances favourable for these *stimuli becoming active in the organism* for a longer or shorter time and producing distinct physiological results.

The introduction of the idea of conditioned reflexes into physiology seems to me to be justified for many reasons. In the *first place it* corresponds to the facts that have been adduced, since it represents a direct inference from them. In the second place it is in agreement with the general mechanical hypotheses of natural science; in many kinds of apparatus and machinery, even of simple construction, certain effects (*Kraftspannungen*) are not obtained unless the proper force is at work and the necessary conditions are present. In the third place it is completely covered by the ideas of paths and inhibition, ideas which have been sufficiently worked up in the physiological material of the present day. Finally, in these conditioned stimuli, looked at from the point of view of general biology, there is nothing but a very complete mechanism of accommodation or, which amounts to the

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[2] Experiments made by Boldireff.

diminishing series ar e precision of our reaction goes a great
that those extremely in note of an instrument is employed
particular cause is d stimulus it often happens that not
result of some stimu s adjoining it but even those differing
From this it follow arter of a tone fail to produce any effect.
stimulated primaril is recognised with similar or even much
course with the inte. 7 . An external agent acts as a conditioned
Now these are act y when it comes on the scene, but also when
the only missing p om a position which it has occupied. Of
(*Bewegung*) of the te analysis would have to be undertaken in
May we regard the nature of such stimuli.[8]
generally, our ph
between these nev DIFICATIONS AND COMBINATIONS OF CON-
ones is manifest DITIONED STIMULI.
different departm herto spoken of the analytical faculty of the
before it the pr n *as it presents itself to us in, so to say, the*
mentally and of ion. We have now accumulated material which
newly recognised nce of a continuous and great increase of this
In the first p e experimenter perseveres in subdividing and
which are sensi conditioned stimulus and thereby makes it
as the eye and t the unconditioned stimulus. Here, again, is a
affecting the sa normous extent. In this material relative to the
must be obs stimuli there are not a few cases in which an
originate not exion between the effect and the intensity of a
from the skin n be seen. As soon as a temperature of 50° C.
duces this e to induce a flow of saliva it was found that
destructive p mperature of 30° C. had a similar effect but
while the nas ess degree. An analogous result may be observed
contact of va s of mechanical stimulation. A less frequent
local irritati ith the brush (five strokes instead of 20 strokes
properly so- e) gives less saliva than the ordinary rate of
feature of t nd very frequent rubbing (up to 60 strokes per
degree inco gives more saliva. Trial was then made of com-
the dog unf consisting of stimuli of the same kind and also of
secretion off different kinds. The simplest example is a
the eye, t ion of different musical notes such as a concord
sometimes g of three notes. When this is employed as
fact we h ioned stimulus each two notes together and each
ditioned r note of the chord produce an effect, but the
of distinct ayed two and two together accomplish less than
(*unbedingt* ble and the notes played separately accomplish less
The fun ose played in pairs.[9] The case becomes more com-
ditions wil when we employ as a conditioned stimulus a
reflexes" ation of stimuli of different kinds, that is, of
understa acting upon different kinds of susceptible sur-
impart t Only a few of such combinations have been pro-
question lly experimented with. In these cases for the most
affirmati ne of the stimuli was a conditioned stimulus. In a
been nation in which rubbing and cold were employed the
become r was preponderant as a conditioned stimulus, while
being t pplication of cold taken by itself produced a hardly
betwee ptible effect. But if an attempt is made to convert
more w eaker stimulus separately into a conditioned stimulus
one co on becomes an energetic conditioned stimulus. If we
others. apply the two stimuli together we have before[10] us an
dition ent case of them acting in combination.
two, o e following problem had for its object to explain what
may be ens to an active conditioned stimulus when a new
obtain lus is added to it. In the cases that were examined
instan ction of the pre-existing conditioned stimulus was
and th red when a new stimulus of like kind was added to it.
The a w odour of a like kind hindered the operation of another
previou which was already acting as a conditioned stimulus;
extent. w musical note similarly hindered the operation of
weeks note previously employed which was a conditioned
the an lus. In my opinion it is not without interest to
its pow rk that these experiments were in part made with
its pow er object in view. We were intending to try
mentio orm a new conditioned reflex with the aid of
exists h er equally conditioned reflex which we had previously
a subst ned. We accordingly experimented by adding dis-
which ar stimuli. Generally speaking, researches in this
mouth tion are well advanced. Some individual cases must be
stance n separately. Scratching (or rubbing with a brush)
body. be a ready-made and effective stimulus. When we add
conditi the ticking of a metronome the scratching immediately
conditi its efficacy as a stimulant (first phase); its power is
mecha for some days but returns again, notwithstanding the
dition tion of the metronome (second phase); in the next
of its , scratching ceases to act when the metronome is
appara g and its action now comes to an end altogether (third
our con

phase). When the glare of an ordinary electric lamp is added to scratching, which acts as a conditioned reflex, the scratching at first produces exactly the same effect as before, but afterwards the combination of scratching and luminous stimulus ceases to act.[11] Apparently it was impressions of the same kind which were observed when the action of other mechanical stimuli was experimented with instead of scratching which had been made to play the part of a conditioned stimulus. In the first place secretion of saliva was caused by pressure both with a sharp and also with a blunt object, but to a less degree than by scratching; on repetition, however, the effect of the pressure stimulus became progressively less until it finally disappeared altogether. It is probable that a portion of the stimulus produced by pressure with sharp or blunt objects is identical with the stimulus of scratching and on this account these stimuli proved themselves efficacious in the first experiments. But in the stimulus of pressure there is another separate portion present, and by it the action of the first—i.e., the above-mentioned "identical" part—was in course of time brought to an end.

In these manifestations of inhibition attention is attracted by the following manifestation which regularly repeats itself in all experiments of this kind. After a conditioned stimulus had been applied together with another one which inhibited its action, the action of the first one alone was greatly weakened and sometimes even stopped altogether. This is either an after-effect of the inhibiting stimulus which was added or it is the obliteration of the conditioned reflex, because in the experiment of the added stimulus the conditioned reflex is *not strengthened* by the unconditioned reflex. The inhibition of the conditioned reflex is also observed in the converse case. When you have a combination of stimuli acting as a conditioned stimulus, in which, as has been already stated, one of the stimuli by itself produces almost no effect, frequent repetition of the powerful stimulus by itself without the other one leads to a powerful inhibition of its action, even to the extent of its action being almost destroyed. The relative magnitudes of all these manifestations of stimulation and inhibition have a very close connexion with their dependence on the conditions under which they originate. The following is an example taken from a number of these interesting manifestations We assume that you have the stimulus of scratching acting in the following manner as a conditioned reflex. In the first place nothing but scratching was employed for 15 seconds, then you poured acid into the dog's mouth, you all the time continuing to scratch up to the end of one minute. If you now attempt to scratch for *a full minute* you get a copious secretion of saliva. Try to keep up this reflex—that is to say, go on scratching for a second minute—and at the same time pour acid into the dog's mouth. If you now proceed in the last-mentioned manner several times in succession the effect of the scratching will quickly diminish during the first minute and will ultimately cease altogether. The experiment must now be repeated several times in this manner, with the result that the scratching regains its efficiency during the first minute and its power is now much greater than in the previous experiments.

We were able to observe a similar course of events also in connexion with the exact measurement of the inhibition effect.

In the last place, it may be mentioned that experiments have been made in the production of conditioned reflexes by traces or latent remnants both of a conditioned and of an unconditioned stimulus. The method was that a conditioned stimulus was either allowed to act for one minute immediately in advance of an unconditioned stimulus, or it was even applied two minutes earlier. Conversely, also, the conditioned stimulus was not brought into action until the unconditioned reflex was at an end. In all these cases the conditioned reflex developed itself. But in the cases in which the conditioned stimulus was applied three minutes before the unconditioned one, and was separated from the latter by an interval of two minutes, we obtained a condition which was quite unexpected and extremely peculiar but was *always repeated*. When scratching was applied to a particular spot—for instance, as a conditioned stimulus—after it began to produce an effect it was found that scratching of any other place also produced an effect, just as in the case of cold or heat applied to the skin, new musical sounds,

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[7] Experiments made by Selenii.

[8] Ibid.

[9] Ibid.

[10] Experiments made by Palladin.

[11] Experiments made by Wasilieff.

stimuli, and odours. The unusually copious secretion a and the extremely expressive movements of the attracted our attention. The dog behaved during on of the conditioned stimulus exactly as if the acid served as the unconditioned stimulus had been y poured into its mouth.[12]

ay appear that this manifestation is of a different kind ose with which we have hitherto been occupied. The is that in the earlier experiments at least one co- ce of the conditioned stimulus with the unconditioned s necessary, but on the present occasion manifesta- which had never occurred simultaneously with an itioned reflex were acting as conditioned stimuli. n unquestionable point of difference naturally comes t, but at the same time there is also to be seen another al property of these manifestations which they have mon with the former ones—that is, the existence of a nsitive point in the central nervous system, and in uence of its position this point becomes the destination the important stimuli coming from the external world ke impressions on the receptive cells of the higher s of the brain (*die höheren Hirnteile*).

CONCLUDING OBSERVATIONS.

ow bring to a close my cursory and very incomplete ary of the data which have been obtained in this eld of research. Three characteristic features of this t make a deep impression upon him who works at it. first place these manifestations present great facilities xact investigation, being in this respect scarcely in- to the ordinary physiological manifestations. I am referring to the ease with which they may be repeated, eir character of uniformity (*Allgemeinheit*) under similar itions of environment, and to the fact that they are ble of further subdivision experimentally. In the second , it is inevitable that opinions formed on this subject be objective only. The introduction of a few subjective iderations which we admitted now and again for the pur- of comparison seemed on further reflection to be an act olence or an affront (*Beleidigung*). In the third place, subject involves an unusual abundance of questions. er what heading is the subject to be classified? To t departments of physiology does it correspond? The y to this presents no difficulties. It corresponds partly hat was in former days the physiology of the organs of ial sense and partly to the physiology of the central vous system.

p to the present time the physiology of the eye, the ear, other superficial organs which are of importance as pients of impressions has been regarded almost exclu- ly in its subjective aspect; this presented some advan- es, but at the same time, of course, limited the range of uiry. In the investigation of the conditioned stimuli the higher animals this limitation is got rid of and number of important questions in this field of re- rch can be at once examined with the aid of all immense resources which experiments on animals ce in the hand of the physiologist. Owing to the rtness of the time that remains it is impossible to e illustrations of such questions. The investigation of conditioned reflexes is of very great importance for the ysiology of the higher parts of the central nervous stem. Hitherto this department of physiology has oughout most of its extent availed itself of ideas not own, ideas borrowed from psychology, but now there is ossibility of it being liberated from such evil influences *ieser höchst schädlichen Abhängigkeit*) The conditioned lexes lead us to the consideration of the position of imals in nature; this is a subject of immense extent d one that must be treated objectively. The physiologist n and must examine this question in connexion with ogressive and systematic derangement of the central rvous system in order that he may ultimately arrive at an act knowledge of the mechanism involved. In this inquiry me urgent and practical questions will immediately present emselves.

One point still remains. What relation is there between ychological ideas and the facts now described? What oints of mutual correspondence are there, who will occupy mself with these relations, and when? This relationship ay be interesting even at present, but it must be confessed hat physiology has in the meantime no serious reason for discussing it. Her immediate problem is to collect and to analyse the endless amount of objective material which presents itself. But it is plain that this conquest which physiology has still to make consists for the most part of the solution of questions which hitherto vex and perplex humanity. Men will possess incalculable advantages and an extraordinary power over themselves when scientific investigators will subject other men to the same external analysis as they would employ for any natural object, and when the human mind will contemplate itself not from within but from the outside.

Must I say something on the relationship which exists between medicine and the subjects of my address? Broadly regarded, physiology and medicine are inseparable. Since the medical man's object is to remedy the various ills to which the human body is liable, every fresh discovery in physiology will sooner or later be serviceable to him in the preservation and repair of that wonderful structure. It is an extreme satisfaction to me that in honouring the memory of a great physiologist and man of science I am able to make use of ideas and facts which from a unique standpoint affording a prospect of every success throw light upon the highest and most complicated portion of the animal mechanism. I am fully persuaded of the ultimate triumph of the new method of research and I avow it the more fearlessly because Thomas Huxley, who is an example to all of us, fought with rare courage for freedom in the expression of scientific opinions.

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[12] Experiments made by Pimenoff.

An Address

ON

THE GENERAL MEDICAL COUNCIL: ITS POWERS AND ITS WORK.

Delivered at the Victoria University of Manchester on Oct. 2nd, 1906,

BY DONALD MACALISTER, M A., M.D. CANTAB,
B.SC.LOND., D.C.L.DURH., LL D MONTR & TOR & ABERD,
LINACRE LECTURER OF PHYSIC, UNIVERSITY OF CAMBRIDGE;
PRESIDENT OF THE GENERAL MEDICAL COUNCIL
OF THE UNITED KINGDOM.

GENTLEMEN,—It happens that I have never myself had to listen to what is called an "Opening Address." But I have read a good many, and they have not always caused me to regret my deprivation. At Cambridge and at St. Bartholomew's, where I was a medical student, these ceremonial orations were not in favour. At the beginning of the session we met as usual, and set to work at once. I hope that before this hour is over you will not be tempted to wish that the like custom prevailed in Manchester. It may reassure you if I say that I do not propose to offer you a formal exhortation. Time and temperament have precluded me from trying to emulate the eminent leaders of the profession who in past years have discoursed to you from this place. My aim will be humbler and perhaps more practical. I propose to speak, informally but as I trust not loosely, on various matters concerning our common profession and its government with which at one time or another it behoves us all to be acquainted, and about which many mistakes are made—for want of knowledge.

When I was honoured with the invitation to address you at the beginning of a new academic year I was told that my audience would consist chiefly of medical students and practitioners—"with a sprinkling of intelligent laymen." That information—or warning—had something to do with my choice of a subject. For the General Medical Council has points of interest for students, practitioners, and laymen alike: and my only fear is that I may fail to make them as interesting as they really are. My chief difficulty lies in the misconceptions that exist regarding the Council's powers and its work. I seldom take up either a professional or a non-professional paper that touches upon medical matters without finding evidence of these misconceptions. Sins of commission, more often sins of omission, are freely laid to the

Council's account, of which from its very nature and constitution it cannot be otherwise than guiltless. It is scolded for doing what the law says it shall do. It is bitterly reproached for leaving undone what the law gives it neither power nor means to do. It is spoken of at one time as the Parliament of the profession. Yet it has no authority to legislate for anybody, and it cannot make even a by-law for any but its own proceedings. At another time it is scornfully described as a "doctors' trade union." Yet it cannot legally levy an annual subscription, or say a word on the matter of rates of pay, or hours of work, or disputes with employers; it offers no pecuniary benefits or strike pay; and it *can* be sued in the courts like any other corporation. I venture to think that such a "union" would hardly be thought to deserve the name by the energetic organisers of Lancashire and Cheshire trades.

The Council is in fact neither a Parliament for making professional laws nor a Union for protecting professional interests. It may surprise some of you to learn that when the Council was created, nearly 50 years ago, the declared purpose of the Legislature was not to promote the welfare of professional men or professional corporations, it was not to "put down quackery" or even to advance medical science. The object in view was simply the interest of the public. The preamble of the Act of 1858 consists of two lines only: "*Whereas it is expedient that Persons requiring medical aid should be enabled to distinguish qualified from unqualified practitioners: Be it therefore enacted ......*" The preamble as you see recognises two kinds of practitioners, the "qualified" and the "unqualified." Up to that time no easily-understood line was drawn between the two, and when the public desired to make a choice, they were frequently at a loss. The Act set up machinery for as it were "hall-marking" the qualified practitioner, so that he might easily be recognised when his services were required. But the public were left free then, as they are free now, to seek "medical aid" from the unqualified practitioner if they liked. And the unqualified practitioner was left free then, as he is free now, to practise for gain among those who chose to employ and pay him. He was forbidden under penalties to pretend that he was qualified, by taking a title he did not possess; he might not use the courts for the recovery of his charges; he could not give a valid certificate of death: but except for these and a few other not very inconvenient disabilities he was untouched by the new law.

On the other hand the "qualified" men, as a set-off to their new legal status and official recognition, were subjected to a new central control, educational and disciplinary. They obtained no monopoly of practice among the public in general. They were afforded no special "protection" against the competition, not always scrupulous or insignificant, of the uncontrolled unqualified practitioner. Indeed for a time those of them who were educated and licensed by medical schools and corporations were in a sense exposed to greater competition than before. For at the outset, all who claimed to have practised before a certain date in 1815, whether they had been educated or not, were enrolled among the qualified. In this way a number of elderly practitioners, who had no licence or diploma whatever, were accorded the same legal status as the rest, and practised side by side with them. These of course have now disappeared; but their existence must not be forgotten when we are considering the so-called "privileges" of the profession which were conferred in 1858.

The qualified practitioners might fairly have claimed that it would be good for the public, as well as for themselves, if monopoly of practice and protection against the competition of the untrained *had* been conferred upon them. In other countries, and in other parts of the King's Dominions, the restriction of practice to the qualified is with general consent and approval enforced by law. Any unqualified person who habitually and for gain practises or holds himself out as practising any branch of medicine is liable to severe penalties. But in these days of "Christian Science," and "Nature Cures," and "Bile Beans," it requires a good deal of optimism, and some resolute ignoring of the signs of the times, to believe that in this free (and easy) country legislation to that effect is either probable or possible in the near future.

The result, foreseen or unforeseen, of Acts passed since 1858 has been rather the other way. An unqualified *person* can be restrained from using a title, such as "physician" or "dental surgeon," which implies qualification and is reserved by law for qualified men. But if he takes to himself six other persons, as unqualified as himself, and registers the compound individual as a joint-stock company it is held that, in England at least, he can call himself wha he likes. He is no longer a "person," but a corporation—with the usual and highly convenient negation of soul o body. Thus the distinction set up by the *Medical Act* i blurred by the operation of the Companies Act. The publi may well be excused if they think they are dealing wit qualified practitioners when they seek advice at the establishments, legally incorporated, of "Dr. Galen Æsculapius Jones Limited," or "Professor Smith and Co., Consumptio Specialists," or "Tooths, Cash Dentists." Strenuous effort have been made, within and without Parliament, to get thi remedied; but so far without much success. The Legislatur is in fact very tender towards unqualified practitioners o every kind—so long as they do not presume to practise *law*. The lawyers have seen to it that *that* profession at least is sacred.

I have mentioned that in 1858, when medical men were first officially registered, everyone who claimed to have been in practice some 40 years before was enrolled, even though he held no diploma or other certificate of competency. The vested right even of the unqualified was thus carefully respected. A similar thing happened 20 years later when dentists were enrolled, and to-day the *Dentists Register* is made up, to the extent of nearly one-half, of men with no other qualification than "in practice before July 22nd, 1878." Four years ago, as the outcome of a bitter cry for the better regulation of midwives, whose want of skill and cleanliness brought suffering and death to countless mothers and infants, the Midwives Act was passed. Again all women went on the roll who applied, and had been in practice for a year—trained and untrained together. Those who did not choose to go on the roll were allowed two or three years more during which they could use the title of midwife, though unenrolled or uncontrolled. And not until 1910 will it be illegal for a woman, who is not enrolled and has no certificate of training, to practise for gain that perilous office —perilous I mean to those who place their lives in her hands.

All this care for the unqualified can I have no doubt be excused on political and legal grounds. That I am not concerned to deny. I mention it to illustrate the general temper of our law givers—and of their constituents also. We all of us in our hearts incline to distrust the rule of the expert, and we rather admire the amateur. Most of us flatter ourselves that in one way or another we are something of amateurs ourselves. It is more than a half-truth to say that England would rather be free, free even to let itself be injured or befooled, than under compulsion to be sober, or healthy, or secure. And so long as this mood prevails I do not see much chance for the Bill that is to "put down quackery" with a strong hand. Parliament may go so far as to "*distinguish*" the trained from the untrained practitioner: it will then leave you free to make your choice—at your own risk.

The instrument which Parliament set up for the purpose of marking the distinction is called the *Medical Register*. And the making and keeping of this Register is entrusted to the *Medical Council*. On the Register are placed the names of those who have passed certain tests of professional fitness. These are called *Registered Practitioners*, and these alone the law declares to be duly or legally qualified. The Council has to see that the tests of professional fitness actually applied by the Examining Bodies to aspirants for registration are "sufficient." They must ensure that those who pass them possess "the knowledge and skill requisite for the efficient practice of medicine, surgery, and midwifery." The Council has also to see that no registered person, who by crime or misconduct has become unworthy of the legal status which registration confers, shall remain on the Register. In other words the two great functions which the Council in the public interest discharges are—first to prevent the unfit from gaining access to the Register, and, secondly, to remove the unworthy from it. Except as to a few subsidiary matters such as the preparation of the *Pharmacopœia*, the control of Diplomas in Public Health, the scrutiny of the Midwives Rules, and the like, all its powers and all its work, *in relation* to the medical and dental professions, have reference t these two functions. It is a Council of *Education* and a Board of *Registration*.

It is a Council of Education; but it neither teaches r examines. It cannot lay down a code or curriculum co pulsory on all medical students. It cannot inspect a sin medical school. Its statutory powers are strictly limit It can order the visitation and inspection of the vario examinations held by Universities and Corporations in th

United Kingdom, for the purpose of testing candidates for their respective medical degrees or diplomas. And it can require from these bodies information concerning the course of study, and the age of candidates, which they prescribe. If from the inspection of the examinations, or the information supplied as to the curricula, the Council comes to the conclusion that either are "insufficient," it has no power to disallow them, or to order that they shall be amended. It *forwards its report* to the body concerned, takes note of any observations the body may make thereon, and if it is still convinced that the training or the test is "insufficient," it brings the question before the Privy Council.

In this and in other matters the Council is in close administrative relation with the Privy Council. If in anything the Medical Council neglects its duty, the Privy Council may formally direct that the duty *shall* be performed, and may in default itself perform it. In the case *before us the Privy Council has* power to supplement as well as to supersede. It can do what the Medical Council is *unable to do. If it sees fit*, it can declare that an "insufficient" diploma shall be no longer recognised as legally registrable; and, if circumstances alter, it can rehabilitate the diploma, and make it valid again.

The Medical Council is also a Board of Registration. In fulfilment of this function, partly by the force of necessity, and partly in virtue of the interpretation of the law by the Judges, it has become a *Professional Court of Justice*, a domestic forum for the trial and determination of grave charges brought *against registered practitioners* in their professional capacity. By successive judicial decisions it has been laid *down* that in its procedure the Council, sitting as a tribunal, must as nearly as possible follow the forms and rules customary in other courts. But it has no authority to compel the attendance of witnesses, to administer oaths, or to call for the production of documents. It has only one judgment to give when a charge is proved to its satisfaction—namely, "guilty of infamous conduct in a professional respect"; and only one sentence when judgment is given—namely, "erasure from the Register." From this sentence and judgment, given after proper inquiry and without malice, the High Court of Justice has pronounced that there is no appeal. In the earlier years of the Council's life its decisions were frequently called in question before the ordinary courts of law. The results were on the whole fortunate, for while its actual findings as a professional court were never reversed, the judgments delivered on these appeals not only defined, but in effect expanded, the jurisdiction of the Council. They laid down its procedure, they interpreted broadly the meagre language of the Statute, and they settled beyond *dispute* the finality of its decisions on all causes within its competence.

All the Act says is: "If any registered medical practitioner shall be convicted in England or Ireland of any Felony or Misdemeanour, or in Scotland of any Crime or Offence, or shall after due Inquiry be *judged* by the General Council to have been guilty of Infamous Conduct in any professional respect, the General Council may, if they see fit, direct the Registrar to erase the name of such medical practitioner from the Register." In 1853 the Lord Chief Justice and his colleagues of the Queen's Bench laid it down that this clause "makes the Medical Council sole judges of whether a medical practitioner has been guilty of infamous conduct in a professional respect; and this Court has *no more power to review* their decision than they would have ...... of determining whether the facts had justified a *conviction* for felony or misdemeanour under the first *branch* of the section .... The Council is the tribunal to *whom the Legislature* has left the decision, as being the *best* judges in the matter, and this Court cannot interfere."

In another appeal Lord Justice Bowen declared that, provided "due inquiry" had been made by the Council, "the *jurisdiction* of the domestic tribunal which has been clothed by the Legislature with the duty of discipline in respect of a great profession, must be left untouched by Courts of Law."

Referring to the language of the Statute, Lord Justice Fry added: "'Inquiry,' and 'judgment,' and '*guilt*' are all words which express and which are relevant to a proper form of judicial proceedings, and therefore, although this body *proceeds* by different rules of evidence from those on which Courts of Law proceed, I cannot for a moment doubt that the Council were proceeding judicially; nor can I help adding that the manner in which the Council has proceeded on this inquiry, as on all other inquiries, shows that the Council are fully aware that they are performing judicial duties, and endeavour evidently to perform them in a very admirable manner."

These and like judgments settled the jurisdiction and the procedure of the Council sitting as a tribunal. The meaning and scope of the statutory verdict of the Council "guilty of infamous conduct in a professional respect" were given by the definition of the Court of Appeal in 1892. "If it is shown that a medical man, in the pursuit of his profession, has done something with regard to it which would be reasonably regarded as disgraceful or dishonourable by his professional brethren of good repute and competency, then it is open to the Council to say that he has been guilty of 'infamous conduct in a professional respect.'"

I have given these important decisions at length for two reasons. They show, in the first place, the position assigned by the law to the Council's judicial inquiries and the range of its jurisdiction. In the second they illustrate the process of legal development by which three words in the Act of 1858—'inquiry,' 'judged,' and 'guilty'—have inevitably led the Council to become a court of professional discipline, with duties and powers which were certainly not explicitly set forth in the Statute, if indeed they were implicit in the intentions of the Legislature. The guardianship of the Register and of its accuracy, then committed to the Council, had in it the potentiality of a wider and weightier *stewardship*. The Council of Medical Registration had no choice but to grow into the High Court of Medical Conduct. And observe that the development came about as the result of a series of judicial interpretations. A study of the earlier minutes of the Council shows how tentative, how hesitating, how half-unconscious, were its first steps towards the assumption of judicial functions. It hardly knew that it was a judicial tribunal *in posse*, it scarcely realised what precautions as to procedure were necessary to make its inquiries "*due*" within the meaning of the Act. The course the evolution actually took is *however exactly* that by which the Common Law of England has reached its present *form*. As Sir Henry Maine (*Ancient Law*, Chapter II.) reminds us: "We in England are well accustomed to the extension, modification, and improvement of law by a machinery which, in theory, is incapable of altering one jot or one line of existing jurisprudence. The process by which this virtual legislation is effected is not so much insensible as unacknowledged. ...... We do not admit that our tribunals legislate; we imply that they have never *legislated*; and yet we maintain that the rules of the English *Common Law* ...... are *coextensive* with the *complicated* interests of modern society."

The development of the germ provided by the Legislature has been from within as well as from without. The decisions of the Courts of Law have caused the Council to expand into a recognised and independent tribunal. Its own judgments in a succession of actual cases, decided by it after due inquiry, have gradually built up a body of *precedents* and *rulings* which may fairly be described as forming the Common Law of Medicine. I said at an earlier stage that the Council had no power to legislate or to make by-laws *except* for its *own* proceedings. That is strictly true of the Council *considered* as an enacting body. It is equally true of the *ordinary Law* Courts; we do not regard them as parts of the *Legislature*; they do not enact new statutes. But, as we have *seen, they* do in effect *develop* law if they do not claim to make it. And the developed law may be and indeed is *more comprehensive* and more adaptable than the statute law of which it professes to be no more than the *interpretation*.

The Judges' *definition* of professional misconduct, like their definition of the *province* and *jurisdiction* of the Council itself, contains within it a principle which is in essence *evolutionary* and *progressive*. Whatever may be reasonably regarded as disgraceful or dishonourable by *professional* men of good repute and competency, is "infamous conduct" in the technical sense. As the standard *of professional* competency becomes higher, as the conscience of men of good repute becomes ethically more exacting, so *the* area within which the Council can exercise its discipline expands. And thus it has come to pass that practices which, 40 or 50 years ago, were so common and so lightly regarded that they excited little notice and less reprehension, are now repugnant to the general sense of the profession, and are sternly repressed by the Council. I may take two instances to illustrate my point. Formerly, in certain parts of the country, it was customary for a qualified man in large general practice to employ a number of as his assistants. These, as they acquired a certain amount of rule-of-thumb experience, were gradually entrusted more and more with the sole care of patients. The practitioner sometimes did not see the patient until it was time to sign a death certificate in order to avert an inquest. Individual cases of gross abuse were one by one brought before the Council and condemned. Others in which various forms of evasion were attempted followed upon these, and as they arose these ingenuities were severally met and dealt with. At length it was made clear to those who clung to the evil tradition that their practice was too dangerous to be profitable, and that the "unqualified assistant" must go. Having accumulated a sufficient body of experience regarding the mischief which had to be eradicated, the Council summed up all in a "warning notice," respecting the professional offence of "covering." All qualified practitioners were notified that the abuse of their qualifications whereby an unqualified person was enabled to treat patients as if he were qualified, under "cover" of his employer, was in its nature fraudulent and dangerous to the public, and that such an offence rendered them liable to be judged guilty of infamous conduct. The result was remarkable. Unqualified assistants were dismissed wholesale, often no doubt at the cost of some hardship to individuals, but in the end for the good of the public and of the profession alike. The evil from being almost endemic in particular districts became sporadic, and is now fast passing away. The general conscience, which tradition had somewhat dulled, is now alert. Cases of "covering" by medical men have almost ceased to be reported to the Council: though in the dental profession, which is still in the stage of transition, they are somewhat more frequent.

The "warning notice" was not in form a law or regulation made by the Council: it was merely a condensed statement expressive of the successive judgments of the Court. But it served its purpose, and its authority has not been impugned.

More recently the practice of issuing objectionable advertisements or of employing or sanctioning the employment of canvassers with the object of procuring patients was brought before the Council in connexion with particular flagrant cases. Each case had to be dealt with on its own merits—or demerits. The character of the objectionable advertisements varied; in some cases the canvassing or touting was direct, in others it was carried on through the agency of a club or association or dispensary. Sometimes the case was strenuously fought, in others the accused practitioner preferred to discontinue the practice complained of and submitted himself to the clemency of the Council. Once more when the time was ripe, and the various forms assumed by the mischief were fully apprehended, a "warning notice" was issued as before. This pointed out the public detriment and professional discredit attaching to unworthy methods of attracting practice, and gave notice that practitioners who employed them, or sanctioned their employment, were liable to the penalty of erasure from the Register. A similar notice had already been issued to dentists, as the result of a series of cases duly heard and determined. In this instance the Council had the support of the Court of Appeal, given in a series of important judgments relating to an advertising dentist of some notoriety.

These examples, and I could add to their number, illustrate my statement that even with its apparently limited powers as a Court, and notwithstanding the apparent inadequacy of the Statutes which govern it, the Council does in fact formulate, and by formulation makes explicit, fresh applications of the law to the growing complexity of modern conditions. And, what is more important, in doing so it carries with it the consensus and approval of "professional men of good repute and competency." The average conscience is quickened, and what was once tolerated is in the end repudiated and discountenanced.

The experience of the Council on the judicial side of its work has been singularly paralleled on the educational side. There too positive powers that are seemingly meagre and inadequate have not prevented it from developing an influence which is real and potent.

Its powers only enable it to visit and inspect examinations, and to call for information as to courses of study: it is not authorised to prescribe or to amend either. It cannot itself disallow an "insufficient" curriculum or an "insufficient" test: it can only report its opinion to the Privy Council. These are the limits imposed on its educational action by the terms of the Medical Acts, and at first sight they are narrow enough. But in practice they have proved to be more efficient than they seem in theory; and the "long result of time" has gone far to make them adequate for the purpose. This result has been reached, as in the other case, by a gradual process of evolution, and by the exercise of moral pressure. It is dependent in great measure on three factors—one the constitution of the Council itself, another the loyalty and conscientiousness of the teaching and examining bodies, and the third the publicity of the Council's minutes and proceedings.

Let me say a little, first, about the constitution of the Council. As you all know, the testing of students in medicine, and the granting, to those who pass the test, of medical diplomas and degrees, have been entrusted by the State to Universities and to certain professional Colleges and Societies within the three kingdoms. Some of the Universities are of great antiquity and repute, like Oxford and Cambridge, others are modern and filled with high ambition, like Victoria and Birmingham. The professional Colleges of Physicians and Surgeons are all of considerable age, with traditions of service to the cause of medicine that extend over centuries. Altogether there are now 24 bodies that are legally entitled to test candidates and to confer diplomas. In England, and also in Ireland, two of the bodies, and in Scotland three, have combined for examination purposes to form three Conjoint Boards, one in each division of the Kingdom. But for all other purposes the bodies preserve their autonomy, and make their own regulations. To the fifteen Universities it is probable that a sixteenth, namely the University of Wales, will shortly be added.

Each of the 24 Licensing Bodies, as they are called, appoints a member of the Medical Council. Five members are appointed directly by the Crown, on the advice of the Privy Council, and five members more are appointed by direct election, under a universal suffrage, by the registered practitioners resident within the Kingdom. The total number of members is thus at present 34. Of these, 14 only are required by law to be medical practitioners themselves. The Crown and the Universities may appoint laymen if they like. They have not chosen to do so; but the freedom reserved to them illustrates what I have already remarked on—namely, that Parliament in creating the Council had in mind the safeguarding of general public interests, not of professional or scientific interests. Indeed, it was at one time proposed that one of H M. Secretaries of State should be the President of the Council. One of my predecessors, Sir Henry Acland, used to maintain that the Crown should appoint to the Council lay members of the House of Lords, such as the late Earl of Shaftesbury, as being persons of knowledge and experience of public affairs who were independent of transitory politics (*Royal Commission Blue Book*, 1882, p. 5). They would, in his opinion, increase the administrative efficiency of the Council, correct its tendency to professional bias, and be always at hand to bring forward in Parliament measures of medical importance. You will see how remote from Sir Henry's mind was the conception of the Council as a mere union of doctors for professional ends. We have travelled a long way from his point of view; whether for better or worse it is not for me to say—at least on this occasion. But the original idea on which his view was based is not without significance, and it survives in this, that in the Universities generally it is not the medical faculty that appoints the member but the academic governing body, whatever that may be. In my own University of Cambridge, the member is elected by the Senate, *more burgensium*, that is, as the members of Parliament are elected. The Senate numbers over 7000 graduates in all the faculties, and each has his voice and vote. When I was first returned to the Council I had, like better men, to pass through the ordeal of an election contest. The five members directly elected by the practitioners of the three countries were added in 1886. In 1882 a Royal Commission had reported as follows: "While we insist that the reason of the existence of the Medical Council is the interest of the public, we cannot but recognise the vital interest of the whole Medical Profession in the constitution of that Body. It seems to us highly important that the Profession should have full and complete confidence in the Council, and seeing that the governing Bodies of the Medical Corporations, which now elect members of the Council [and which alone, be it remembered, are required to elect medical men] can hardly be said to represent the great majority of practitioners, we think it advisable to give the g titioner an effective voice in the Body which principal authority of the Medical Profession. We see no reason to suppose that the members elected by direct representation will be less eminent than those nominated either by the Crown or the [proposed] Divisional Boards" [of the three parts of the Kingdom]. The Commission accordingly recommended that four members should be directly elected, two for England and one each for Scotland and Ireland. The Act, when it came, was framed on a somewhat different basis, and gave three members to England instead of two.

Please observe the main reason alleged for the introduction of the directly elected members: it was "highly important that the Profession should have full and complete confidence in the Council." Exactly the same reason may be assigned for the arrangement, also sanctioned in 1886, by which each one of the Licensing Bodies was granted an effective voice in the counsels of the principal authority. For in their case also it was important that they should have such "full and complete confidence in the Council" as would make them ready to coöperate with it in matters of medical education. The new Act conferred no new coercive powers on the Council. Its numbers were increased, the extent of the qualifying examinations was enlarged and better defined, the scope and method of the inspection to which they were subject were more fully expressed. But the Council as before could only in the last resort report to the Privy Council any deficiencies it discovered. The law in fact contemplated that reasonable uniformity and stringency in the existing tests were to be brought about, not by autocratic compulsion, but by common action for a common end. To use the language of a recent Bill, "peaceable persuasion in a reasonable manner" was to be the main motive force entrusted to the Council, so far as Medical Education was concerned. Ardent reformers cried then, and have often cried since, for speedier and more drastic powers. But after all is not the method adopted by Parliament characteristically British? "Government with the consent of the governed": "freedom limited only by necessary checks on the abuses which would destroy the freedom and efficiency of others." These are general maxims of our statecraft in regard to other departments of our corporate life. And the State thought well to apply them to the regulation of our profession also.

By its new constitution, then, in which (1) the State on behalf of the people, (2) the profession itself, and (3) the several bodies which educate, test, and maintain the repute of the profession, possess each of them an effective voice, the Council became better adapted than before for its purpose of regulating the training of medical men. It became in fact a better *Council* of Medical Education. The duty and responsibility of appointing not obedient *delegates* but good *members* were imposed on each of its constituent bodies and sections. Their credit rather than their narrower interest was involved in the selection they made. For the influence wielded by any member of the Council within its walls ultimately depends on his character and capacity as a man among his brethren, and not on the dignity or power of the body which sends him. That influence is instantly weakened and discounted if he comes burdened with a mandate, or hampered by a pledge. He must be a voice, and not merely an echo.

I need not labour this point. Its importance must be obvious. But I would add two remarks before I leave it. However important may be the essential independence of the members considered as components of a Council of Education, it becomes more than important, it becomes vital, when we view them in their judicial capacity. In Scotland the Judges of the Supreme Court are finely described as Senators of the College of Justice. In our medical tribunal the Councillors must also be regarded and regard themselves as for this purpose members not of this or that College, University, or Association, but of a "College of Justice" only. "Clothed by the Legislature with the duty of discipline," as Lord Justice Bowen expressed it, anything like fear or favour, partiality or ill-will, mandate or pledge, becomes more than a defect, it amounts to a disqualification for judicial functions.

And in the second place, I would bear testimony that during the 20 years which have elapsed since the constitution of the Council was readjusted, and over which my knowledge of it extends, the electing bodies have been singularly successful in realising the ideal I have indicated. The special gifts of the members chosen have varied, and fortunately varied, as much as their individual opinions and experience: but all have contributed elements of value to the corporate life, and to the corporate character which is its essence. Projects have often been framed for altering the constitution of the Council, so as to give less or greater preponderance to some fancied "interest" or other. What is always undemonstrated in these schemes is that they will bring about the appointment not merely of *different* members but of *better* members, having regard to the one supreme interest—the interest of the public. It is with this essential question that our people and our Parliament are primarily concerned, and yet this is the very question on which, in my opinion, no clear evidence has yet been vouchsafed.

I have said above that the *Constitution* of the Council was a factor in the development of its educational influence. I have given you a sketch of what the Constitution *is*. Let me next consider briefly how it reacts upon the Council's work.

As regards education, the principle sanctioned by the Legislature is that laid down by the Royal Commission of 1892. "It would be a mistake to introduce absolute uniformity into medical education. One great merit of the present system, so far as teaching is concerned, lies in the elasticity which is produced by the variety and number of educational Bodies. Being anxious not in any way to diminish the interest which the teaching Bodies now take in medical education, or to lessen their responsibility in that respect, we desire to leave to them as much initiative as possible. In certain matters of general importance, such as the duration of study, and the age at which a student should be permitted to practise, common regulations ought, we think, to be laid down, but we wish to record our opinion that nothing should be done to weaken the individuality of the Universities and Corporations, or to check emulation between the teaching institutions of the country." In other words, competition between a multiplicity of teaching bodies, as such, tends to the advancement of education. The institution which, *cæteris paribus*, affords the most efficient teaching will have the best reputation and be the most resorted to. The interest involved in the competition is the interest of improvement.

As regards examination, to put it mildly, this interest is not so clear. I put it to the unregenerate instincts of the students before me. If, as they will probably be ready to declare, all examinations are essentially evil, would it not be wise to choose the least? Will not the most popular examination board be that which offers the easiest test? If the same hall-mark is impressed on nine-carat gold as on 22, why waste precious metal in working up to the higher standard? Reasoning of this somewhat crude kind commends itself to the natural man, and many of the criticisms that we hear are based on nothing more profound. It takes little account of other facts of professional economics which are nevertheless of decisive importance. Thus the supposed hall-mark is *not* the same in the two cases. Examining boards, no less than medical schools, in the end depend for popularity on their reputation for efficiency. If a board is notoriously easy-going not students only but their teachers and their parents and the profession and the public know it. The practitioner finds that he can only get a nine-carat diploma from that board, and he pretty soon learns that he starts on his career with the stamp of a nine-carat man. Conscious as we are of each other's imperfections, we are all sure that our *own* merits deserve more than the minimum of recognition, whether in this imperfect world they receive it or not. And so the easy-going board becomes the object of resentment instead of loyalty among those it has licensed, and loses not only its public prestige but the corporate backing and support of its licentiates. In its own interest the board has to recognise that it is hurtful, not helpful, to have the reputation of being over-lenient. And I may add as a matter of statistical fact, that even in older days, before the full operation of this law was observed, the easiest examination was not the one which attracted the most students.

In so far however as the primary tendency of competing examinations might be regarded as downwards, rather than upwards, the State has established a check. It has affirmed the principles (1) that a certain minimum of stringency shall be required, (2) that the minimum shall always be such as to secure efficiency in the practice of the essential branches, and lastly (3) that, to admit of the gradual rise of the minimum with advancing needs and advancing knowledge, the practical definition of it from time to time shall be left to the General Medical Council with the concurrence of the Privy Council.

It is here that the constitution of the Council tells in favour of these self-acting, or, as I called them just now, economic forces, which tend to raise the standard of both teaching and examination. Every board has its member on the Council. The Council informs itself by inquiry and inspection of the actual requirements of each in respect of training and of testing. If it appears, let us say, that England is at a given moment too lax in any particular, and that students are in consequence likely to pass to England from Scotland and Ireland, the members from these sterner regions are at once on the alert. They are not usually deterred from speaking their minds by any over-mastering awe of the majesty of English Universities or Corporations. They have a common interest in urging that the alleged laxity shall be remedied. The English boards, even if they were united in a solid conspiracy of Saxondom, have only 12 votes out of 34. If the case against them is made out, to the satisfaction of the members elected by the Government and the practitioners respectively, the English combination is powerless to prevent the carrying of a resolution that the fault ought to be amended. And so far as a resolution of the Council can do it, amended it would be. This is an imaginary instance: I do not say that anything exactly like it has ever happened, though, changing "names and numbers," examples not *unlike* it could be cited. I am concerned only to give you what the engineers call a "force-diagram" of the Council's constitution, as it operates, and was no doubt intended to operate, in questions of the kind.

Unrestricted individual competition, to continue the mechanical metaphor, would as some think make all examining bodies gravitate to the lowest possible position. By bringing all the bodies together, in the persons of their chosen members, round the Council table, the play of forces is so altered that the position of normal and stable equilibrium is now somewhere about the centre of gravity of the whole. The *average* standard of all replaces the former *minimal* standard: and the average tends to be that which "men of good repute and competency," having regard to all the circumstances, think reasonable and "sufficient." If it is not so high as some might think attainable, it is a good deal higher than what, without our machinery, would actually be attained.

Suppose now that the Council has passed a resolution for the improvement in some particular of the requirements of one or more of the constituent bodies. The resolution does not come as an order from an autocratic bureau—*sic volo, sic jubeo*. It comes from a Council on which the body concerned has as much voice as any other. It is like the utterance of the International Conference at the Hague, in which all the nations are represented, and in whose proceedings all take a part. You, as one of the nations, may not wholly agree with the utterance: but you feel that you can give it the most careful consideration and even embody it in your own national practice or legislation, without derogating one whit from your proper dignity or sacrificing a jot of your rightful independence. You act on the impulse not of servile submission, but of *noblesse oblige*. You gave the Council the highest sanction in your power by sending a member to represent you: you would expect the minority to respect its decisions had you been in the majority: you can do no less yourself even if you for once are in the minority.

From the point of view of the Council as a corporate entity, it is also of inestimable advantage that each of its constituent bodies is represented upon it. Its members, in one aspect of their functions, are so many envoys from the Universities and Corporations. Each is in immediate touch with his governing body; he is by hypothesis in good standing and influence there, or he would not have been chosen. While he is an envoy *of* the body, he becomes in turn an envoy of the Council *to* the body. From his own knowledge of the course of the discussion, the arguments used, the examples proposed for imitation, he is in a position to explain and commend the Council's decision to his colleagues at home. He can make clear the scope and bearing of resolutions that are not always, I regret to say, self-explanatory.

It is, I am convinced, largely owing to the representation of the bodies upon the Council, and to the potent motives which, with our British temperament, we deduce from that representation, that the influence of the Council with the bodies so far outmeasures its actual powers. The only compulsion to which the bodies have been subject is the internal compulsion of a high self-respect, which makes them unwilling to do less than their compeers for the common good. In a multitude of instances, even this compulsion has been eased of all constraint by the fuller sympathy with the Council's motives and objects which the loyal mediation of its members has induced.

Whatever may have been assigned as the reason for it in past times, the fact is worthy of mention here, that during its 48 years of existence the Council has only once had to express its final verdict of "insufficiency" with respect to any one of the licensing boards, and to report that verdict to the Privy Council with a view to judgment. The board in question no longer exists. It is therefore only just to give full credit to the loyalty and conscientiousness of the bodies, in setting forth the factors which have facilitated the Council's task of maintaining the educational and examinational standard of the profession.

The third factor I propose to mention to-day is the publicity of the Council's minutes and reports. About twenty years ago, in a notorious case, an attempt was made to restrain the Council from publishing its proceedings in relation to a penal inquiry. The attempt failed utterly. The "privilege" of the report in question was amply sustained. The Lords Justices of Appeal said: "The report is a report of proceedings which actually took place: proceedings within the jurisdiction of the Council: a report of proceedings where the facts had been ascertained: a *bonâ-fide* true report without any sinister motive: a report of a matter of public nature: a report of proceedings in which the public are interested, and in respect of which they are entitled to information." "We have come to the conclusion that the publication of these proceedings, being true, accurate, and *bonâ-fide*, is privileged."

Now if it is for the public advantage that proceedings relating to the character of a particular person should be published, it may well be held that it is still more for the public advantage that reports and proceedings relating to the action of a responsible corporation in the exercise of its public functions should have the like publication. Thus when one of the examinations has been inspected, the Inspector's report, with the remarks of the body concerned, and the remarks of the Examination Committee on both, are presented to the Council, and when duly received, are printed in its public minutes. The report is full and detailed, the strong points and the weak points of the examination are described and commented on, ample materials are furnished whereon to base the judgment of the Inspector, the Committee, and the Council, as to its sufficiency or insufficiency. The whole is discussed in the presence of the public and of the reporters of the various journals, and the decision can thus be criticised with knowledge of its grounds. The net result is certainly beneficial. If a body is commended for some new and valuable feature in its methods, for an examination-experiment which has proved successful, the commendation is public, and the credit of the body is enhanced. The other bodies have the opportunity of learning from the success of the pioneer body, and of adopting the improvements themselves. In this way a virtue is not only praised, it is propagated. It is twice blessed: it blesses the bodies that (thanks to their free initiative) were wise enough to discover or invent it: it blesses also the bodies that offer it the sincere flattery of imitation.

On the other hand, if a clear defect or insufficiency is revealed, the body concerned hears of it, the profession hears of it, the public hears of it. The criticism it calls forth is echoed and re-echoed: and the criticism is not always over-tender or under-pungent. It may in fact be so irksome to self-complacency, so disturbing to conventional dignity, that even a dignified and self-complacent body of men, who are convinced that they are "not as other men" and are persuaded that they "need no repentance," will generally find it expedient to take serious account of it. The forces called into play thus tend to eliminate the defect, or even to convert it into a redundancy of merit, before the next inspection. Please remember that I am not trying to hint at particular examples: I am only, as before, showing how the machinery may be expected to work, and illustrating my thesis that by its intrinsic construction it works for the advancement of professional education, and the upward development of the minimum standard.

A few outstanding examples will suffice to make clearer the results which all these factors in coöperation have gradually brought about. The successive judgments of the Council in disciplinary cases made it necessary that, for the information of the profession, it should formulate its view of certain courses of conduct in the so-called "warning notices." These, as we saw, were not laws enacted, but only law interpreted and declared. In regard to education the Council had no authority to lay down a compulsory curriculum applicable to all. *Strictly speaking* it could only consider on its merits each curriculum *proposed by any one* of the bodies, and pronounce it "sufficient" or "insufficient." If "insufficient" the body *must* in theory try again and again until the Council was *ready* to say "sufficient." The inconveniences of this method are apparent, and out of them arose a virtual appeal to the Council to say, in general terms and beforehand, what *would* be sufficient. In this way the Council was impelled to formulate a statement of what subjects should be included in a sufficient course of study, and how many *years at least should be spent* in pursuing it. Thus without formal enactment, yet with, general consent and assent, first the four years', and later the five years' curriculum came into being. It is not prescribed by a ukase: in form it professes to be nothing more than a "requirement" for sufficiency, or a "recommendation" to the licensing authorities. But for practical purposes it has the same effect as if it were an authoritative regulation. All the bodies observe it: yet not as of law but as of grace.

Again, there is absolutely nothing in the Medical Acts about the general or non-professional education of medical students—nothing about matriculation or preliminary examinations, nothing about a volume that nearly touches many of you, I mean the "Students' Register." I hope I shall not undermine your respect for that important document by making this admission. The Royal Commissioners of 1882 thought that the preliminary education and registration of students should be made a matter of statute. They said: "We agree in the opinion universally held by the witnesses, that every intending medical student ought to pass an examination in general education before entering on medical study. ...... As the purpose of this examination is only to test the possession by the candidate of a reasonable amount of general culture, its subjects should not be of a technical or professional nature. ...... The general scope of the examination should be subject to the approval of the Medical Council, but the conduct of the examination should be left to the Universities or such other bodies as may be approved by the Medical Council. ...... We consider that the full period of medical study should be passed after the date of registration. The registration of medical students ought, we think, to be placed under the charge of the Divisional Boards [of the three kingdoms] and an officer of each Board should keep a list of the names. ......"

But somehow the necessary provisions for giving statutory effect to these recommendations did not get embodied in the new Medical Act which followed the Commission. The recommendations practically described a system which had already grown up. As you have heard, the plan was universally approved by the witnesses examined, and they were many and representative of all shades of medical opinion. How had it grown up, and by what *authority then*—and *now?* We searched the Acts before for the potential *germs* of the Council's judicial development, and we found them in three words—"inquiry," "judged," and "guilty." The germs of the quasi-legislation of the Council on students' registration, and preliminary education, and professional curriculum lie in the words "courses of study" and "ages." As to the sufficiency of these the Council is to form, and if necessary to report to the Privy Council, its opinion. Let us suppose that the Council's opinion is that no course of study should be less than five years long, and that no one should be licensed till he is twenty-one years of age. That means first that the beginning of the course should somehow be marked in a definite way, and secondly that it should not be begun before the age of 16. To ensure that these conditions are fulfilled in the case of every student who after the age of 21 applies for the registration of his diploma, the Council must either ask each of the 24 bodies to keep its own Register of students' names and ages, and keep it open to the Council's inspection day by day, or what is vastly more convenient for everybody, it must institute a central Register of its own. As students often pass from one University or School to another, the former plan would require the establishment of a students' Clearing-house for the ratification and exchange of local certificates of registration. The latter plan saved all this, and so it was adopted. Then arises the question, on what conditions shall a *student* be entered in the Central Register? What must he do before he is invested by the Council with the rights and privileges—if any—of a registered medical student? At a very early stage most if not all the bodies had insisted that every one of their own students should first show, in some way satisfactory to themselves, *that* he had enough general education to justify his admission to a liberal profession and to profit by the scientific and technical training that prepared him for it. The Central Register had no chance of acceptance by bodies like these unless it was based on the same principle. Thus the Council was impelled to require a sufficient certificate of preliminary *education as a pre-requisite.* Again the question of "sufficiency" led to the defining of a minimum requirement, and to the enumeration of the authorities whose certificates as a matter of fact fulfilled the requirements. Without its seeking the Council had thus to embark on inquiries concerning *general* as well as professional education, and indirectly to exert an influence on the former as well as on the latter. To this day the time of two great Committees, on Education, and on Students' Registration, is largely taken up with this subject; and the Council's requirements have risen, are *rising*, and are bound *to rise* still higher.

Time fails me to tell you in detail by what curious stages, through what disputes and controversies, along what educational bye-paths, the present arrangement has been reached. It is still transitional, *there are still difficulties in the way*, it is not yet perfect. But on the whole it is making for progress, for the uplifting of the educational status, and thereby of the social status of the profession. And its improvement is fortunately the concern not of the Council only, but of medical men themselves. It is entirely to their credit that so many of them should be eager for a more rapid advance than the Council finds to be practicable. It has to carry a large number of bodies with it; the pace of the march has to take account of the slower as well as of the faster of these; and, as you now know, it has no real power to drive; it can only lead.

Let me make a last confession in closing. The Medical Council as an instrument of professional government is not ideally perfect. Perhaps *no* human organisation, with the possible exception of the Victoria University of Manchester, is perfect. But it may be said for it that it did not start *de novo*, full-armed and potent like Minerva from the brow of Jove. Like every British institution it was built on old foundations of tradition and vested right *and* sacred privilege. It was not a creation but an adaptation. That it had within it, however, the seed of life, the germ of growth and expansion, my informal sketch of some phases in its half-century of history has I hope convinced you. Whether its future be one of continued evolution, or of sudden and complete revolution, it has not wholly failed in the task committed to it. The work it has succeeded in accomplishing has not been measured by the scanty powers it originally received.

An Inaugural Address

ON

THE THEORY AND PRACTICE OF MEDICAL EDUCATION.

Delivered at St. Mary's Hospital Medical School at the Opening of the Winter Session,

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INTRODUCTION.

GENTLEMEN,—There are probably few subjects that have been debated so often and at such length as the one I have chosen for the present address. Every medical man has benefited or suffered from the curriculum through which he has passed and very naturally both has, and expresses, an opinion on the process. Although this is so, and although an audience of experts will critically examine all that is said, nevertheless it is sometimes of interest to retrace our steps over already trodden ground and to examine carefully the reasons that have led to the evolution of the medical curriculum as we see it to-day. For it must be remembered that medical education is in reality only a branch of technical education in general—that is, of that part of education which aims at equipping the student for a definite course of action and that the theories which underlie the

TABLE I.—*500 Consecutive Cases from Five General Practitioners in London (2), Essex, Middlesex, and Norfolk.*

1.—SPECIFIC INFECTIVE DISEASES.

Tuberculosis of lungs	5
,, glands	2
,, knee	1
,, skin	1
Gonorrhœa	4
Syphilis	4
Influenza	3
Whooping-cough	3
Mumps	2
Dysentery	1
Scarlet fever	1
Measles	1
Febricula	1
Acute rheumatism	1
Chicken-pox	1
Erysipelas	1
Total	32

2.—ANIMAL PARASITES.

Oxyuris	3
Bothriocephalus	1
Scabies	1
Mosquito bite	1
Harvest bug	1
Wasp sting	1
Total	8

3.—INTOXICATIONS, SUNSTROKE.

Alcohol	5
Police examination for alcohol	1
Sunstroke	2
Food poisoning	2
Total	10

4.—CONSTITUTIONAL.

Rheumatism	8
Lumbago	4
Gout	4
Diabetes mellitus	3
Purpura	1
Rickets	1
Total	21

5.—DIGESTIVE SYSTEM.

Diarrhœa	61
Dyspepsia	28
Tonsillitis	9
Adenoids	4
Constipation	5
Gastric ulcer	5
Hyperchlorhydria	3
Intestinal colic	3
Pharyngitis	3
Catarrhal jaundice	2
Colitis	2
Gall-stones	1
Flatulence	1
Intestinal obstruction	1
Ulcerative stomatitis	1
Cirrhosis of liver	1
Total	130

6.—RESPIRATORY SYSTEM.

Bronchial catarrh	17
Post-nasal catarrh	2
Epistaxis	3
Asthma	2
Pleurisy	2
Pleurodynia	1
Bronchocele	1
Hay fever	1
Total	29

7.—CIRCULATION.

Heart:—	
Failure	6
Mitral disease	4
Mitral and aortic	1
Hypertrophy and dilatation	1
Varix	2
Arterio-sclerosis	2
Piles	3
Abdominal aneurysm	1
Total	20

8.—BLOOD AND DUCTLESS GLANDS.

Anæmia	8
Graves's disease	2
Myxœdema	1
Enlarged thyroid	1
Total	12

9.—KIDNEYS.

Bright's disease	4
Floating kidney	3
Stricture	3
Cystitis	2
Pyuria	1
Total	13

10.—NERVOUS SYSTEM.

Neuralgia	7
Neurosis	4
Convulsions	3
Cerebral atheroma	2
Hysteria	2
Chorea	2
Epilepsy	2
Neurasthenia	2
Melancholia	1
Apoplexy	1
Anterior poliomyelitis	1
Total	27

11.—SKIN AND NAILS.

Eczema	4
Erythema	3
Carbuncle	2
Alopecia	2
Urticaria	2
Ringworm	2
Hypertrophied toe-nail	2
Herpes facialis	1
,, pubis	1
,, zoster	1
Onychia	1
Impetigo	1
Wart	1
Acne	1
Total	24

12.—SUPPURATIONS, ABSCESS, POISONED WOUNDS.

Alveolar abscess and dental caries, with extraction	10
Dentition	2
Dental periostitis	1
Pyorrhœa alveolaris	1
Nitrous oxide for extraction	2
Abscess and poisoned wounds	10
Ulcer of leg	4
Suppurating glands	4
,, cyst	2
Necrosis of hip	1
Total	37

13.—DISLOCATIONS, FRACTURES, SPRAINS.

Compound fracture, radius and ulna	1
Simple fracture:	
Clavicle	1
Colles	1
Intracapsular of femur	1
Sprains	6
Total	10

14.—OTHER INJURIES, WOUNDS, ACCIDENTS, BURNS.

Burns	5
Accidents, contusions, &c.	9
Cuts	5
Dog bite	2
Human bite	1
Needle in finger	1
Thorn in foot	1
Total	24

15.—TUMOURS.

Mediastinal new growth	1
Carcinoma of stomach	1
,, tongue	1
Total	3

16.—MIDWIFERY, GYNÆCOLOGY.

Confinements	16
Dyspepsia, &c., of pregnancy	6
Amenorrhœa	4
Dysmenorrhœa	2
Leucorrhœa	1
Endometritis	1
Retroflexion	3
Abortion	2
Subinvolution	1
Retained placenta	1
Prolapse of uterus	1
Puerperal sapræmia	1
Pelvic cellulitis	1
Climacteric	1
Total	41

17.—EYE AND EAR.

Eye:	
Astigmatism	1
Scratched conjunctiva	1
Hypermetropia	1
Foreign body	2
Stye	2
Conjunctivitis	3
Dislocated lens	1
Cataract extraction	1

17.—(*Continued.*)

Ear:	
Middle ear	6
Wax	3
Foreign body	1
Total	22

18.—NOT CLASSIFIED.

Vaccination	7
Debility	7
Infantile hernia	1
Hammer toe	2
Synovitis	2
Phimosis	2
Enlarged prostate	2
Circumcision	2
Undescended testis	1
Electrolysis for removal of hair	1
Total	22

19.—UNCERTAIN DIAGNOSIS.

(?) Renal calculus	1
(?) Abdominal pain	1
(?) Scarlet fever	1
(?) Gonorrhœa	1
(?) Middle-ear abscess	1
No discoverable disease	9
Total	14

larger subject must also apply to the smaller. Further, the success or otherwise of any concrete scheme must depend finally on the validity of the arguments which have been used by the founders. As time and space do not permit of the due consideration of the whole field of medical and surgical training I propose in this address to deal first with the general principles underlying the whole question and then to study only the application of these principles to the preliminary and intermediate sciences, leaving the actual professional work, as is fitting, to my colleagues on the medical and surgical staff.

THE ACTUAL WORK OF THE MEDICAL PROFESSION.

The first point of departure will perhaps seem a little surprising, but it is logically sound. If we seek to plan a special system of education for the medical profession we should in the first instance learn what special knowledge and attributes will be required in the practice of it and have a clear idea of the work which the medical practitioner will be required to do. This we can ascertain in two ways—either from a study of our inner consciousness imagine what a medical man should do, or adopt the more laborious but correspondingly more accurate method of inquiry and see what is actually accomplished in practice. This latter method we shall attempt, and our endeavour will lead us to a very interesting study of the work of the medical profession from a standpoint very seldom taken.

It is necessary as a preliminary measure to adopt some method of classifying medical practitioners and as giving a sufficiently close approximation for our present purpose we shall make two classes: (*a*) general practitioners, who may meet with any kind of case; and (*b*) consultants, who only treat selected cases.

A certain number of the first class who were general practitioners representing as far as possible the various kinds of practice and the different localities in England, were each asked to note down 100 consecutive cases. Five of these lists were then analysed and tabulated, taking Osler's classification of disease (with some additions to include surgical cases) as the basis of the analysis and the result you see in Table I. But before considering this I should like to convey my warmest thanks to those medical men who have so kindly given their time and trouble to this work and without whose coöperation this inquiry would have been impossible.

You will see, if you look carefully, many interesting things in this table. Perhaps the most obvious is the very great preponderance of "medical" over "surgical" cases. This is better marked in the practice of medical men near London than in country districts, because in the former so many cases go to town, but even in the most favourable instance, where a practitioner has a country hospital at his disposal, the disproportion is still very great.

The disease, or rather symptom, that is found most commonly is diarrhœa, and disorders of digestion in general

TABLE II.—*100 Cases from Consultant (Physician) compared with the Average per 100 Cases of the General Practitioner.*

1.—SPECIFIC INFECTIOUS DISEASES.	
Pneumonia	6
Tuberculosis of lungs	5
" peritoneum	1
Enteric fever	3
Influenza	2
Pyæmia	1
Syphilis	1
Total Consultant	19
Average G.P.	6
2.—ANIMAL PARASITES.	0
Total Consultant	0
Average G.P.	2
3.—INTOXICATIONS, SUNSTROKE.	
Alcohol and neuritis	1
Alcohol, morphine, and chlorodyne	1
Tobacco amaurosis	1
Total Consultant	3
Average G.P.	2
4.—CONSTITUTIONAL.	
Gout	2
Rheumatoid arthritis	1
Diabetes insipidus	1
Diabetes mellitus	1
Total Consultant	5
Average G.P.	2
5.—DIGESTIVE SYSTEM.	
Appendicitis	5
Gastro-enteritis	4
Dyspepsia	4
Diarrhœa	2
Constipation	2
Gastralgia	1
Colitis and neurosis	1
Gastric ulcer	1
Anorexia and headache	1
Gall-stones	1
Tonsillitis	1
Total Consultant	23
Average G.P.	28
6.—RESPIRATORY.	
Bronchitis	2
Laryngitis and neurosis	1
Broncho-pneumonia	1
Emphysema	1
Post-nasal catarrh	1
Contracted lung	1
Total Consultant	7
Average G.P.	6
7.—CIRCULATION.	
Heart:	
Mitral	3
Dilatation	2
Congenital	1
Aortic regurgitation	1
Atheroma of aorta	1
Total Consultant	8
Average G.P.	4
8.—BLOOD AND DUCTLESS GLANDS.	
Hæmophilia	1
Graves's disease	1
Addison's disease	1
Total Consultant	3
Average G.P.	2
9.—KIDNEYS.	
Incontinence of urine	1
Functional albuminuria	1
Total Consultant	2
Average G.P.	3
10.—NERVOUS SYSTEM.	
Tabes dorsalis	3
Meningitis	2
Hysteria	2
Hysterical hemiplegia	1
Sciatica and hysteria	1
Neurosis	2
Migraine	1
Insomnia	1
Headache	1
Vertigo and feeble heart	1
Bulbar paralysis	1
Neuralgia	1
Delirium after pneumonia	1
Mental depression	1
Total Consultant	19
Average G P.	5
11.—SKIN.	
Lichen urticatus	1
Total Consultant	1
Average G.P.	5
12.—SUPPURATIONS, ABSCESSES, POISONED WOUNDS.	
Decayed teeth and neurasthenia	1
Total Consultant	1
Average G P.	7
13.—DISLOCATIONS, FRACTURES, SPRAINS	0
Total Consultant	0
Average G. P.	2
14.—INJURIES, WOUNDS, ACCIDENTS, BURNS.	0
Total Consultant	0
Average G. P.	5
15.—TUMOURS.	
Carcinoma:	
Lung	1
Pylorus	1
Total Consultant	2
Average G.P.	1
16.—MIDWIFERY, GYNÆCOLOGY.	
Subinvolution	1
Dysmenorrhœa and hyperæsthesia	1
Total Consultant	2
Average G.P.	3
17.—EYE AND EAR.	0
Total Consultant	0
Average G.P.	2
18.—NOT CLASSIFIED	
Old age	1
Astigmatic headache	1
Debility	1
Total Consultant	3
Average G.P.	2
19.—UNCERTAIN DIAGNOSIS.	
(?) Duodenal ulcer	1
(?) Pyelitis	1
Total Consultant	2
Average G.P.	3

occur five times more often than any other kind of case. This is partly due to the particular month—September—during which the lists were compiled, but even allowing for this the number of cases is large and it is plain that every student should make a careful and exact study of the pathology, diagnosis, and treatment of the diseases of this class—he will have ample occasion to use his knowledge.

There are a great many so-called "trivial" cases—cut fingers, contusions, bites of insects, bronchial catarrh, and so forth. This need not make the student contemptuous, it is in this class of case that treatment is easiest and most satisfactory in its results. One variety of disease appears more seldom than might have been expected—viz., tumours, in the whole series of 500 cases there occurred but three. You will observe the considerable number of children's diseases (in one list of 73 cases where this point was specially noted the proportion was 21 children and infants to 52 adults) and also the amount of gynæcology and midwifery. Here again the table will give a hint to the student of what he should study. But the further consideration of these facts must be deferred to a future occasion, as we are now concerned with the bearing of these cases on the teaching of science. Even at this stage of the inquiry you can see that the direct use of the preliminary sciences is small but the indirect use essential.

Table II. is a very interesting contrast, and here again I tender my thanks for the information so kindly furnished to me. It represents 100 consecutive cases from the notebook of one of the most eminent consulting physicians that we possess. Here, of course, is no surgery at all. The main characteristics of the table are two. In the first place the proportion of the cases has entirely altered. Diseases of digestion are less frequent and diseases of the nervous system and specific infections about three times more frequent, and there are similar variations in the other columns. The second point is even more remarkable, and that is the change in the character of the individual cases. There are none of the "trivial" cases, and their place is taken by grave disorders such as pneumonia, tabes dorsalis, diabetes insipidus, and bulbar paralysis, of which both the treatment and diagnosis present special difficulties.

I had intended collecting further lists from other consultants, surgeons and physicians, but a study of this one showed me that as far as medical education goes it is unnecessary. It is not possible to provide a suitable training for a practice of this kind—the man must educate himself. But whatever deductions we may make as a result of the analysis of these figures, I think that you will agree that as a mirror of the daily life of the medical profession these two tables have a unique interest.

THEORIES OF EDUCATION.

We have now an idea of the work that the student may expect to do when once he has embarked on the practice of his profession. The next step in our inquiry is to consider what training he should receive for this. The theory is very simple. Medical education should consist of two parts: (1) studies which give a broader outlook and teach scientific methods—e.g., biology; and (2) studies in which the actual facts learnt are required in practice—e g., clinical medicine.

It is necessary to have a clear idea on this point, as it lies at the basis of any well-devised curriculum, and although certain subjects—e.g., physiology—come under both headings and although certain clinical studies may be quite as good training as pure science, still this does not invalidate the subdivision. An example will make the distinction clear. In the course of clinical medicine the symptoms of enteric fever are considered in great detail: this is necessary—it is evident that the study of no other disease would do instead. In the course of biology, on the other hand, it is customary to study closely the anatomy of *lumbricus terrestris*, but an equally good course might be arranged in which *tubifex rivulorum* was substituted; the actual facts are not required subsequently—it is the training of mind and hand and the view of different forms of life that is of value.

Considering therefore the different uses to which the study of these two classes of subjects is applied there should be a corresponding difference in the manner of teaching them. This follows from the facts just mentioned and that this has not received sufficient attention in the present curriculum is, I venture to suggest, a fault that it would be wise to correct.

THE PRESENT CURRICULUM AND COMMENTS THEREON.

Let us see, however, before making any alterations what the student is expected to do at present, and at the risk of being tedious, I will set forth the full curriculum. The student is expected to attend lectures, courses, or what not in the following subjects:—

Biology.
Chemistry.
Physics.
Anatomy.
Physiology and Histology.
Pharmacology and Therapeutics.
Medicine.
Surgery.
Pathology and Morbid Anatomy.
Bacteriology.
Pathological Chemistry.
Midwifery and Gynæcology.
Medical Jurisprudence and Toxicology.
Hygiene and Public Health.
Mental Diseases.
Ophthalmology.
Dermatology.
Otology.
Laryngology.
Anæsthetics.
Vaccination.
Fevers.
Electrical and X rays.

Even if we take no note of the extended character of some of these subjects and the prolonged study they require the bare enumeration makes an appalling list, and I fear that few of us realise the very heavy burdens laid on the medical student. The medical course is the longest and most arduous of any of the technical courses and it behoves us to see that the labour is expended to the best advantage.

Remembering that at this time we are only considering the question of the preliminary and intermediate sciences we will only refer to three of the many points that might be raised. 1. All the universities and colleges have adopted schemes which comprise the same subjects; any differences that exist concern minor points only. 2. Five years are officially allowed to complete the course. As a matter of fact the time is insufficient; the student in the great majority of cases takes six to seven years before he has received his official hall-mark, and usually one year after this, spent as house surgeon, assistant, or some similar appointment before he starts on his own account. The total time is probably between seven and eight years. 3. The preliminary and intermediate sciences occupy a considerable time, usually taking three years, less than half of the total time as we have reckoned it. These three points require careful consideration.

First, as the subjects have been adopted more or less by general consent they are probably sufficient, provided that the student has had before matriculation a good elementary training.[1] Under the *second* and *third* headings different opinions have been expressed; and the view has been put forward that both the time spent and the amount of each subject attempted are too great. I have carefully sought the opinion on this matter of many general practitioners, as it might be supposed that they would feel more accurately than anyone else the defects in the present system. The opinions I received surprised me a little, but on consideration it will be seen that they really follow in order from the theoretical views already stated. Briefly, the practically unanimous opinions were: (*a*) That the preliminary and intermediate subjects are of great value. (*b*) That this value is an indirect one: most of the men did not retain any knowledge of the facts learnt. (Some reservations were made as to parts of anatomy and physiology.) (*c*) The answer to the question which subject each man had found most useful differed. All the subjects were chosen in turn.[2] (*d*) There was a unanimous opinion against any shortening of the curriculum.

Now I venture to suggest that these collected opinions should carry considerable weight. It has been often said that the curriculum should be shortened and simplified; the medical practitioners I asked held very strongly a contrary view. It was represented to me that many of the grievances in practice arose from there being let loose too many young men, and that the future of the medical profession would be much better served if fewer men of a better class were qualified. This view seems a reasonable one. Some men rather regretted that they had spent so long over rare and unusual diseases to the neglect of those more frequently met with but none of those I asked seemed to feel that the time they had spent in studying science was wasted. The net result of the inquiry on my mind was rather to change the attitude I had formerly held and in the suggested alterations in the curriculum mentioned later I have accepted the postulate that the time taken shall not be lessened.

A SUGGESTED REFORM.

We have, then, the problem how to teach science in the way that will be of most educational value and we are given, as at present, three years in which to teach it. Here I enter on a part of my discourse I put forward with much diffidence, though if you have followed the arguments already advanced and the theories that have been considered, I think you will admit that the reform is well founded. Briefly, the scheme is this: The syllabus of the preliminary and intermediate sciences is to be revised so as certainly to contain the comparatively few facts required in practice (the frequency of different cases giving an idea of the relative importance of these facts); it is also to be shortened so that by the end of the second year the student will have learnt what is wanted. The third year is thus set free; it should be spent in taking an advanced course in any one of these sciences—biology, chemistry, physics, anatomy, physiology—and in one only.

Now I quite admit that at first sight such a scheme seems impossible, but a little reflection will show that it would not only be a great improvement on the present arrangement but really is a logical conclusion from the facts I have collected. If it is admitted that the main use of the preliminary sciences is to train the mind, surely this is better accomplished by the careful and thorough study of one subject, where the methods can be learnt in a way that would be really useful, rather than by the present curriculum where the student is expected to learn a perfect encyclopædia of disconnected facts and then forthwith forget them.

It might be objected that two years would be too short to impart a sufficient training in five subjects and that in some mysterious way the standard would be lowered, but these objections rest on very slender grounds. No doubt the present syllabus could not be taught in two years, but there would be no difficulty in drawing up a syllabus that could,[3] and as a matter of fact a very similar syllabus is already in force abroad without the additional year propounded under this scheme. I do not think that, for the reasons already given, the foreign plan is as good as our own nor that less than three years should be spent in science. What I do claim is that the time can be better distributed than it is now. If it were so distributed the standard would not be lowered; on the contrary, the quality of work would be better and in the year of advanced study the student would receive a most valuable training that is at present left out.

It is not possible at this stage to give more than the barest outlines of the proposed scheme, and in any case the details would have to be considered by the teachers in the separate subjects. But the idea is somewhat as follows. In the first year of medical study biology, chemistry, and physics would be taught, and at the end of the year an examination passed in these subjects. In the second year would come anatomy and physiology. If at the end of this year the student had made satisfactory progress, he would be permitted to spend the next year in advanced work in any one of these subjects. At the end of the third year he would pass an examination in anatomy, physiology, and the "advanced" subject he has chosen. He will then proceed to his more exclusively clinical work, taking with him—it is hoped—a knowledge of scientific methods which he would apply to his clinical studies. The particular "advanced" subject that the student would choose would depend on the goal for which he was aiming—I would admit the widest possible choice—it being clearly understood that the actual anatomical and physiological facts required for clinical work had been already learnt in the two preliminary years.

It is obvious that the success of the scheme in practice would depend on the skill with which the syllabus for both the "elementary" and "advanced" subjects was drawn up, as in the former it would be necessary to make a selection from each science and decide what facts should be taught and what omitted, in the latter to give a good idea of the whole subject as well as instruct the student in scientific methods generally. But I do not expect that these details would be as difficult to arrange as might be supposed and I think the advantages of the scheme would be found to be considerable.

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[1] See on this point "Medicine and the Public," by S. Squire Sprigge (Heinemann, 1905), where also many excellent suggestions are to be found on medical education in general.

[2] I imagine this means that each man used the particular science he knew the best; perhaps, also, that it is the scientific method that is valued and not any branch of science in particular.

[3] That is, it could be taught as well as the various professional subjects are taught in the remaining years. To really learn *all* the subjects of the medical curriculum thoroughly would take an ordinary lifetime at the least.

A MINOR DETAIL: CONCLUSION.

There remains for our consideration what is from the theoretical standpoint a very minor detail, but which has a great personal interest for us—that is, whether medical education shall be carried on at separate hospitals or at one, two, or three centres planted at different spots in the metropolis. If the question be dispassionately studied it is quite clear that, as far as learning is concerned, it is of no consequence where a laboratory is situated. The quality of work at any place depends first on the professor in charge, secondly on the equipment, and thirdly on the suitability of the building. If all these three are of good quality it is of no consequence whether the laboratory is placed at an institute or a hospital. Which locality will prove the best in practice, supposing these desiderata are equally fulfilled, will then depend on conditions which though important are only of secondary value from the standpoint of learning, such as the cost of up-keep, facility of access, proper supervision over the students, and such like. One cannot therefore suppose that if these institutes were founded the millennium would follow.

As regards finance, it is quite plain that the students' fees on the present basis will always be insufficient to provide for their proper training in science under either scheme. Outside financial assistance therefore will be required, both for institutes and hospitals; which of the two the public prefer to support remains to be seen; it seems to me that, as there is not an unlimited amount of money to be obtained, it would be much better spent on institutions already in existence and working satisfactorily, rather than building and endowing new laboratories which might or might not be an improvement.

There is one point with regard to "concentration" schemes to which the experimental method can be applied and that is the quite subordinate detail of how a hospital medical school which instructs its students elsewhere fares under the process. Two of the London hospitals have recently done this. We would be greatly interested to learn whether or not they find that the students do better work and whether the change is popular, as indicated by a greater or smaller number of men taking advantage of these conditions. So far, I have no information to offer; perhaps some of my hearers can supply the want?

Meantime, I think one can be very well satisfied with things as they are at St. Mary's, in all except one point. I observe that in the past our students have taken more than their share of prizes and academic distinctions, that in the present you have well-equipped laboratories for each science presided over by teachers recognised by the University of London, and that the standard of work will compare very favourably indeed with any university in the kingdom. The only point that can be improved is that of finance. So far generous donors have rescued us from our difficulties, but to carry on the work of the school as it should be requires an endowment of some kind. I therefore commend this object to those well disposed to medical education and I have much pleasure in announcing one donation towards one department which I hope may be a guide to other donors who may be interested in other subjects, and which may be a stepping-stone to the realisation of the scheme that has been propounded. An anonymous benefactor, through Dr. Collingwood, has offered to pay £100 per annum for a research scholarship in physiology and a further sum of £100 per annum for the expenses of the research or for a second scholar for a period of two years. I am sure you will all join with me in returning our heartiest thanks for such a welcome present.

This brings to a close the consideration of the teaching of the preliminary and intermediate sciences as they bear on the practice of medicine. You have seen the question from a new standpoint and I hope you will not lightly brush aside the suggestions made as a direct result of the facts that have been collected and the representations made by men who have passed through the curriculum, who have discovered by experience the bearing that their training has on their daily life, and know better than anyone else the needs of their profession.

THE GUILD OF ST. LUKE.—The annual festival service of the Guild of St. Luke will be held in the Pro-Cathedral, Birmingham, on Wednesday, Oct. 17th, at 7.30 P.M., when the sermon will be preached by the Rev. Canon Rhodes Bristow, M.A. Members of the medical profession are invited to attend.

Abstracts
OF
INTRODUCTORY ADDRESSES, ETC.
DELIVERED AT THE
MEDICAL SCHOOLS
AT THE
Opening of the Session 1906-07.

SCHOOL OF ADVANCED MEDICAL STUDIES, UNIVERSITY COLLEGE, LONDON.

INAUGURAL ADDRESS BY RICKMAN J. GODLEE, M.S. LOND., F.R.C.S. ENG., PROFESSOR OF CLINICAL SURGERY IN THE COLLEGE.

Mr. Godlee took as his subject "The Past, Present, and Future of the Medical School of University College," and began by explaining the conditions which led to the formation of University College, or, as it was then called, the University of London, in 1826. He compared the educational difficulties of that period with those of the present day. The impossibility of obtaining a university education at Oxford and Cambridge without subscribing to the articles of the Church of England and taking other oaths prevented Nonconformists and others from entering those seats of learning. The idea of founding a secular university in London suggested itself to the school of Jeremy Bentham, the "Philosophical Radicals," and the Whigs, and was ultimately brought before the public in a letter from Thomas Campbell the poet to Henry Brougham (afterwards Lord Brougham) which was published in the *Times* of Feb. 9th, 1825. Some extracts from the letter were given. The object of the University was said to be "the advancement and promotion of literature and science by affording to young men residing in, or resorting to, the cities of London and Westminster, the borough of Southwark, and the counties adjoining, adequate opportunities of obtaining literary and scientific education at a moderate expense." The scheme raised great opposition from the Churchmen and Tories but it rapidly proved to be a great success. The part first opened was the Faculty of Medicine which immediately attracted large numbers of students. There was no hospital attached to the University but Charles (afterwards Sir Charles) Bell and Dr. (afterwards Sir Thomas) Watson, who were on the staff of the Middlesex Hospital, were professors at the University, and the students of the University were allowed special facilities for obtaining clinical instruction at the Middlesex Hospital. A dispensary was started at No. 4, George-street, in 1828. It was called the "University Dispensary" and was under the *ægis* of the University. The "North London Hospital" was founded in 1833 and was completed in 1846. In 1837 its name was changed to "University College Hospital" and in 1851 to "North London or University College Hospital," by which it is known at the present day. The state of medical education at the beginning of the last century was then described and it was shown how imperfect and unscientific was the teaching of that time. The medical profession was usually entered by the portal of apprenticeship and the qualifying diplomas required only a very insufficient amount of training. A very small proportion of medical men obtained university degrees and these were mostly sought either on the continent or at the Scotch universities. The University of London aimed at modifying the course of education by making the attendance at systematic lectures the primary object of the earlier years and by rendering this part of the instruction thorough and sound. It was hoped also that medical students would take up a course of instruction in arts before starting on their medical career. In 1836, when the present University of London was founded, the institution in Gower-street was incorporated by Royal Charter under the name of University College, London, resigning at the same time one of its early ambitions—viz., that of being allowed to grant degrees. Some description was then given of the old hospital which was defective from a sanitary and hygienic point of view. Projects for rebuilding it were discussed from 1886 to 1896 when Sir John Blundell Maple provided the funds with which the present hospital was built. A brief account was then given of the steps which led to the modification of the University of London, converting it into a true teaching university, and of the absorption by it of iversity College. When this took place it was felt to be ossible or inadvisable for the University to undertake the nagement of the hospital and the teaching of the anced medical subjects. It thus became necessary that se should be separated from University College and fused a new corporation. This was accordingly agreed to on understanding that the university should undertake conduct the teaching of the preliminary subjects, luding anatomy and physiology, to all comers in College as before The School of Advanced Medical idies is to be accommodated in a building now in irse of erection, the cost of which will be defrayed the gift of £100,000 by Sir Donald Currie. The rantages and disadvantages of this plan of separating teaching of the advanced from that of the earlier dical subjects were fully discussed. It was a new one, as as this country was concerned, but there were indications it some other medical schools might be disposed to adopt same course. The lecturer then described in some detail precise position of the new corporation, its capacity, iipment, and objects, and stated his views as to what its ospects and functions should be. It was pointed out that spite of the large sums of money which had been given— might almost be said in consequence of them—still more s wanted for endowment. This was always urgently reired for the hospital and it was difficult to put any limit its needs. The requirements of the school were more derate and if it proved successful and attracted a sufficient mber of students its chief need would be the endowment the chair of pathology. This in order to make the depart-nt really first-rate would require a sum of £100,000. The w was expressed that although the teaching of pathology ght not to be separated altogether from that of clinical dicine, it was advisable that the professor should be fficiently remunerated to enable him to devote most of his ie to his subject. There should also be ample provision for pable assistants and the prosecution of original research. e lecturer concluded with some general observations to the idents.

THE MIDDLESEX HOSPITAL.

INTRODUCTORY ADDRESS BY H. CAMPBELL THOMSON, M.D. LOND., F.R.C.P. LOND.

THE subject of Dr. Campbell Thomson's address was Hospitals and the Public." After saying a few words of elcome to the new students he said: "The position of a spital is generally determined by the needs of a locality, t the benefits which can accrue from an institution of this nd have no such territorial limitations. Through education d research, both of which where circumstances permit it is e function of every hospital to encourage, it becomes ossible to disseminate throughout the whole world the knowdge gained in the causation and treatment of disease, and it always to me a matter for surprise that donors in disibuting their charitable gifts do not inquire more carefully hat use a hospital is making of its opportunities to promote he welfare of the people in general as well as of those who ake their application directly at its doors. On the other and, it is not so surprising if, in carrying out these mportant functions, difficulties are sometimes encountered n adjusting them to the varied interests with which they ust inevitably come into contact. It is not an easy matter or a hospital to carry out with fairness even its first duty of elieving the sick poor, for if the definition of poverty be made too generous the efforts of charity in one direction are marred by the creation of injustice in another. Emergencies excepted, about the right of which to be temporarily treated at hospitals there can be no two opinions, the legitimate qualifications for charitable medical attention are sickness and poverty. Considering the advantages offered by friendly societies and the small fees which practitioners are always willing to accept from those whom they know to be in needy circumstances it might be thought that the numbers who would present themselves for continuous free treatment would not be unduly large. Unfortunately, this is not the case, and the use of hospitals by those who have not the proper qualifications continues to inflict a wrong on those who give and those who have a right to receive. By this abuse of charity the already depleted funds are unfairly drained, the members of the medical profession are defrauded of what they have every right to earn, and the recipient of the charity learns to [illegible] of the object of hospitals and the position [illegible] It is no wonder if, in these circumstances, practitioners have come to look askance upon hospitals and to regard their extension with alarm instead of welcoming it as a helpful ally in difficult cases and as a means of bringing relief to the genuine poor with whom the whole medical profession will ever continue to be in sympathy. Closely bordering on those who are legitimate subjects for charitable medical relief there is, however, a very large class whose position it is not easy to define and from whom at present a considerable proportion of out-patients are drawn. The members of this class are for the most part in a position to pay small sums for continuous attendance either directly to the private practitioner or through the medium of clubs, dispensaries, and other similar societies. Their circumstances are, however, frequently such that they are unable to meet the expense of any further advice they may reasonably desire, and to provide means for consultations for such patients, while they continue to remain under the care of the practitioner of their choice, should be one of the main objects of the out-patient department of a hospital. The metropolitan hospitals have grown up as isolated institutions independent of any central control, and each one having been largely dependent for its survival on its own individual efforts it has too often been found advantageous, and perhaps even necessary, to encourage a large attendance of out-patients in order to display to the public the needs of the institution and the great want it is supplying. It is true that in some instances there has been some semblance of excluding unworthy patients by the employment of inquiry officers, but the difficulty of disposing of the question in this manner must surely be obvious to everyone. Wealth will always be a relative term and for such an officer to decide justly on the evidence available whether this or that family should, in the varying conditions of life, fairly sacrifice a part of their savings or wages to pay for medical advice is not practicable. It is to be hoped that the committees of the great central funds will, by stamping their approval on well-managed institutions, gradually lead the public to realise that quality of work is as important as quantity and that the number of patients is by itself no guarantee of good work. And nowhere is this recognition more needful than in the out-patient departments where the methods employed are necessarily from the pressure of work too often monotonously mechanical. Therapeutic measures are undergoing great changes and for the knowledge of physical exercises, electricity, heat and light and the many other methods of treatment which have become such important adjuvants to drugs, to be applied properly to individual patients, it is essential that the cases should be selected and limited. The most promising solution of this great out-patient problem seems to be in the correlation of all the different forms of medical relief for the poor. As Dr. Squire Sprigge truly says in his book on 'Medicine and the Public,' which cannot be too widely read: 'We shall only begin to solve the problem of hospital abuse when the exact place of the practitioner's surgery, the provident dispensary, and the out-patient department in a general scheme for the treatment of the sick poor are defined and understood.' At this hospital the authorities have the matter constantly under careful consideration and while doing all they can in existing circumstances to prevent any misuse of the charity, have further signified their willingness to coöperate with any scheme that seems likely to place the matter on a more satisfactory basis. It is encouraging to know that such a movement is now on foot by which it is proposed to bring about an affiliation between the hospitals and the provident dispensaries and to try to define the position of the different medical charities as regards their patients. In this way patients who are not of the poorest classes will find it within their means to provide for their general medical attendance and the hospital out-patient department will be open to them for further advice without the necessity of their becoming regular patients. It is to be hoped that the initial difficulties which must inevitably arise in connexion with any scheme of this kind will be successfully overcome and that the public, the consultants, and the practitioners will all unite in trying to remove this heavy burden from the medical profession and the medical charities." The rest of Dr. Thomson's interesting address was taken up with an able exposition of the relations between the hospitals and the medical schools affiliated to them, in the course of which he pointed out that the public might well be asked to assist largely in the endowment of medical education and medical research. He alluded to the proud position occupied by the medical school of the Middlesex Hospital in having simultaneously upon its staff Sir Richard Douglas Powell, the President of the Royal College of Physicians of London; and Mr. Henry Morris, the President of the Royal College of Surgeons of England.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.

INTRODUCTORY ADDRESS BY J. W. BYERS, M.A., M.D., M.A.O. (HON. CAUSÂ) R.U.I.

Professor Byers began by alluding to the fact that his early upbringing brought him into intimate association with those whose constant aim was to help women to carry out their special mission and vocations, while he said that his own personal conviction led him to favour not only the higher education of women but their perfect liberty in the selection of a profession. "My memory," he continued, "carries me back to the time of the early struggles made by your predecessors to obtain facilities to study medicine, for Miss A. R. Barker, a pupil of my revered mother, Mrs. Margaret Byers, LL.D., the founder and principal of Victoria College, Belfast, was one of that courageous band of women who, in the 'seventies' of the last century, after a gallant fight on their part, were driven from Edinburgh. Miss Barker, who was the daughter of a highly respected medical man at Aldershot, studied subsequently in France, where she graduated M.B. of the University of Paris in 1877, and the year after (1878) she obtained by examination the Licence of the King and Queen's College of Physicians (now the Royal College of Physicians) of Ireland, and in this way became entitled to be registered by the General Medical Council of Great Britain and Ireland and to enter legally upon the practice of medicine. The action of the Irish College of Physicians in opening its examinations to women in 1877 was a great step in advance in the movement for the medical education of women, because those who after examination obtained the diplomas of this licensing body in that year were the first women to be registered since the then Miss Garrett (who afterwards as Mrs. Garrett-Anderson was for 20 years Dean of your school) took the Licence of the Society of Apothecaries, London, in 1855. After she had done so the Society of Apothecaries made a rule that no certificates of instruction would be received by them unless issued from a recognised medical school, and as at that time all British medical schools refused to receive them as students this rule prevented other women following Miss Garrett's example. The early women students of medicine in this way owed much to the enlightened action of the Irish College of Physicians, just as in later years the University of Dublin has given great help to women who have been art and science students at Oxford and Cambridge."

Professor Byers then alluded to the remarkable progress evidenced by the School of Medicine for Women during its brief life of 21 years, to the facilities which were now afforded to its pupils for practical and clinical work and for obtaining professional appointments, to the recognition of the school as a teaching institution by licensing boards, and to its affiliation with the University of London, and then proceeded to point out that every student had now a fine tradition to maintain. He urged upon them the necessity of taking pains to work systematically and to avail themselves of all opportunity in the school and in the wards to make personal and practical observations. "It is ridiculous," he said, "to ask any student to devote less than three of the five years of the medical curriculum to hospital, pathological, and clinico-laboratory work, and I welcome the recent action of the Students' Practical Midwifery Committee of the General Medical Council, and trust, as a result of its report and recommendation, that midwifery will in the future be studied clinically in the same way as medicine and surgery. Let me advise you all to do your work systematically and in the regular order arranged by your teachers; and let me urge you to do fully the work of each year in the corresponding year (unless prevented by illness), and to pass your examinations at the stated periods in your course. Speaking of examinations, let me congratulate the teachers of the school on the great success of the students at the recent Intermediate M.B. of the University of London, not only on the unusually large number of passes but on the distinctions given, which were nine out of 25. One student of this school, I believe, took distinctions in all three subjects, and two divided the scholarship in pharmacology; while at the Preliminary Science Examinations of the University of London all the students of this school passed, 10 in Part I. and 14 in Part II. From my position as an examiner in the Royal University of Ireland, I can speak in the highest terms of some of the candidates from your school who have from time to time come under my notice in that institution, and I may be allowed to mention especially Miss Fleury who at the Spring M.B. examinations, 1890, was first of First-class and was awarded a £40 exhibition; and Miss H. Russell (now Mrs. H. Dill Smyth) who at the same examinations in 1891 was the highest on the honour list."

After briefly alluding to the exact functions of the medical school rightly used, Professor Byers came to the main subject of his address—the great opportunities offered by the modern social scheme for medically educated women. "There never was a more interesting time," he said, "in which to start practice, and never was there a period in which medical women had greater opportunities than now. In every department of medicine there are still many unsolved riddles full of interest for those imbued with the true scientific spirit; while, owing to the great advances in preventive medicine, and especially in the direction of its relationship to the State, many pressing public health questions are awaiting solution, in which, I believe, to use the words of the last report of the council of this school, 'as time goes on the peculiar fitness of highly trained medical women for public service will become more and more apparent.'" He then dwelt at length upon the terrible mortality prevailing among infants and the necessity for medical inspection and supervision of school children as presenting problems specially suitable to the work and intelligence of women. With regard to the latter, he said: "Whatever differences of opinion there may be in regard to the new Education Bill, it represents, thanks largely to the efforts of the medical profession, an enormous advance in one direction, in that by it the principle has been established for the first time in England that it is the duty of the State to look after the health and to promote the development of children compelled to attend school. This has been accomplished by the House of Commons agreeing to three most important points: (a) compulsory medical inspection of children at entrance to the public elementary schools; (b) repetition of inspection 'on such other occasion as the Board of Education may direct or the local education authority may think fit'; and (c) the creation of a medical staff at the central Education Department to advise the Board of Education.

(a) The examination of the children on their entrance to the schools would reveal the question whether they were suffering from mental defect or from disease injurious to themselves alone or it may be to others (from mild attacks of scarlet fever, ringworm, diphtheria, &c.); if of a non-contagious nature, whether it was likely to be increased by school attendance. In Germany, if a child of six years of age (the time when children go to school there) is in such health that the medical officer thinks the child will be injured by commencing school life, he puts off his entry for a year. At this time, also, anthropometric observations could be made as to the height, weight, and chest capacity of the children to test their development and to observe if it was normal for their age, and to ascertain whether, in the case of an undersized child, the undeveloped condition was, from the associated history, probably due to faulty up-bringing, wrong feeding, bad housing, unhealthy environment, or malnutrition. In this way facts would soon be accumulated bearing on the question of the physical degeneration of the nation. There is a growing belief that many children at present attending our town and country elementary schools are suffering from disease, but so far we have no accumulated scientific information on this point, but we argue that it must be true from the experience of other nations quite as healthy as England. It has been shown by Mr. T. G. Horsfall (president of the Manchester and Salford Association for the Improvement of the Homes and Surroundings of the People) that in the Scandinavian countries not only was there a great deal of disease among the primary school children, but that schools equally as well managed and equally as well provided as those in this country might increase the amount of disease among the children. In 1890, in only three German towns (Leipsic, Dresden, and Nuremberg) were there school medical officers and at that time their duties were simply to examine the school buildings and the arrangements of the school from a sanitary point of view. It was the report read in Berlin in 1890 by Professor Axel Key of Stockholm on the results of his own examination of Swedish school children, and those of Professor Axel Hertel's examination of Danish school children, which led German towns to begin to appoint school medical officers. Professor Key showed that of children on entrance to the elementary schools in Stockholm as many as 30 per cent. were sickly and of those who had been attending school for some years 60 per cent. were sickly. He also pointed out that Professor Hertel had found in Denmark that 30 per cent. of the children on commencing school were sickly and of those who had been at school some years as many as 50 per cent. As a result of Professor Key's report an examination was made at Wiesbaden which demonstrated that on a certain date 25 per cent. of the school children were sickly; at the present time there are school medical officers in more than 130 German towns. It was in 1893 that medical inspection of school children was begun in Japan and it is said that there are now more than 8000 school medical officers in that very progressive country. In Berlin, in 1904–05, 8½ per cent. of the children were put back when about to enter the primary schools. Two Russian observers have shown that those children of a given age who are highest in school are taller and heavier than those of the same age who are lower. Similar results as to the unhealthy condition of school children have been brought out in St. Louis, Berlin, and in Vienna. Mr. Horsfall says that in no German town had it been found that 50 per cent of the children in the elementary schools were in good health; 10 per cent. were found to be seriously unwell. In Chemnitz, where public health matters were well looked after, only 7·9 per cent. of the children in elementary schools were described as healthy and well fed. In Stuttgart 34 per cent. suffered from rickets and 29 per cent were underfed. A large proportion suffered from decayed teeth. Disease of the heart might also exist among school children which could be only ascertained by medical examination.

(b) The repeated inspection of children during their school career would show whether school attendance was causing or increasing certain diseases, such as curvature of the spine, rickets, scrofula, headaches, anæmia, nervousness, short-sightedness, and whether the dulness and deafness of some might depend on the presence of adenoids. Dr. Hartmann of Berlin says that statistics show that of every 100,000 German children more than 25,000 have ear troubles and that half of these were due to curable throat affections.

(c) The creation of a central medical department of the Board of Education was to correlate the reports of the local medical inspectors and to keep them informed of what was being done in other countries. It has been suggested that this medical inspection of the schools might be done either by special officials or the medical officer of health or by general practitioners. Their duties would be not merely to inspect the school children but to look after the school buildings as to their general sanitary condition (heating, lighting, ventilating, seating, &c., and, in the case of the erection of new institutions, the site and plan, &c.) and to superintend the syllabus as to the instruction of candidates for teachers' certificates in the principles of hygiene, preventive medicine, and temperance. Every health reformer feels that a great deal more must be done in the elementary schools to teach children the simplest rules of how to live, the importance of fresh air and of pure water, and the relative nutritive value of the various kinds of food which are ordinarily used. The Manchester education authority took a distinct step in advance when in 1902 it appointed a lady to give a course of six lessons with demonstrations to the older girls in the schools on the care of the infant, in which such practical questions as the washing, dressing, feeding, and general management of young children are discussed.

It is clear that, having settled the important question that school children are in the future to be examined medically, the central or local educational authorities will be obliged to take the further necessary step in the evolution of this great State problem; that is, they must arrange what is to be done for those found on examination to be sickly. Broadly speaking, these may be divided into two groups. First, the genuinely feeble-minded, if indeed not imbecile, children will have to be sent to suitable institutions. Secondly, arrangements will have to be made for dealing with school children whose abnormal physical condition can be readily remedied—i.e., those requiring proper spectacles (in America fully 50 per cent. of the backward children, it is said, suffer from defective eyesight), children with adenoids (each of these abnormalities, easily made right, often produce an apparent stupidity and backwardness), those with commencing spinal curvature, or with any other defect susceptible of easy correction. Quite recently the Americans, with that practical adaptiveness for which they are so noted, have decided to take this further step in the development of their school system of inspection, and a most important experiment is about to be tried in Philadelphia, where, a couple of decades ago, inspection of schools first began in America, by the Pennsylvania Society for the Prevention of Cruelty to Children, in coöperation with the Board of Education, the Board of Health, and the Court for Juvenile Delinquents. A daily clinique has been started in Philadelphia where the elementary school children will be examined as to both their mental and bodily condition, and suitable treatment, including operations when required, will be recommended. It is believed that probably as many as 10,000 children will be dealt with under this scheme during the coming year. Surely in such important State work there are ample openings for medical women, and their special capacity for undertaking such work has been already recognised by the London County Council giving six of the 20 appointments as assistant medical officers (whose duties are to inspect the elementary school buildings and to report on the health of the children) to former students of this school."

In respect of excessive infantile mortality Professor Byers said that it formed "one of the greatest national health problems we have to face." He pointed out that in England and Wales about 120,000 deaths of infants (or 145 per 1000 births) occur in the first 12 months of life, of which one-half are within the first three months, and of these one half die within the first six weeks after they are born; while one-tenth of all the children born in Ireland die before they attain the age of one year. With regard to the prevention of infantile mortality Professor Byers grouped the causes under two heads: 1. Those antenatal causes that act before the child is born which tend to diminish its vitality so that it is born premature or feeble; or which so deteriorate the mother's health that she is unable to nurse her offspring. Apart from morbid conditions and intemperance, these causes are mainly the result of poverty. 2. Conditions that come into action after childbirth, of which the principal is the substitution of defective feeding—the result of careless and ignorant motherhood—for the breast. In the solution of the problem of infantile mortality they must devise means to help the expectant mother so that she might have a healthy child and be able to nurse it; and they must encourage in every possible way the mothers to nurse their children and try to convince them not only that this is the cheapest but the best and safest way of bringing up their children. For those, and only for those, who could prove by medical certificate that they were unable to nurse their infants the health authorities ought to provide a supply of milk, the purity of which, in its production in the dairies, in its handling, and in its subsequent distribution, should be guaranteed by the supervision of a central Government authority, and the mothers must be taught the correct principles of hand feeding. The French system of "Consultations de Nourrissons" ought to be instituted, continued Professor Byers, "and expectant mothers ought to be seen personally and advised. In the case of those not visited there should be an early registration of births, not as is now the custom in England and Ireland where legally a child's birth need not be officially registered for six weeks, a period during which one-fourth of the deaths of infants in their first year of life occurs. In Huddersfield those whose duties are to give the mothers advice as to the nursing and rearing of their offspring, who encourage them in every way to follow nature's method of bringing up their own children, and who inquire into infantile deaths in their districts are fully qualified medical women, of whom there are now two—Dr. Prudence E. Gaffikin and Dr. Catharine L. Boyd—both old pupils of my own. They visit the mothers and their babies as soon as the births are notified, a payment of 1s. being made to the person first notifying to the medical officer of health the birth of any child within 48 hours of such birth (in its new Bill the corporation of Huddersfield has had it enacted that it is the father or midwife who must notify). The voluntary lady helpers (of whom there are 70), members of the Huddersfield and District Public Health Union, keep the cases under observation for a year, leave with the mothers leaflets embodying recommendations for the rearing of the infants and, where it appears necessary, invoke the art of the medical women health visitors, who in special cases may order dry milk. In the present campaign, to get rid of the terrible, and, to a large degree, preventable, sacrifice of infant lives, we need the help of many organisations (municipal, nursing, hospital, and philanthropic), and I am confident that medical women will take in the future a large share of the work, and it is significant that at the recent National Conference on Infantile Mortality the following resolution was passed: 'That in the opinion of this Conference the appointment of qualified women specially trained in the hygiene of infancy is necessary as an adjunct to public-health work.'"

Professor Byers concluded his interesting, eloquent, and practical address by a eulogy of the profession of medicine if properly practised without jealousy or bigotry.

THE INJECTION OF ANTITOXIN IN DIPHTHERIA BY THE INTRAVENOUS METHOD.

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THE subject of the present paper was suggested to me by Dr. J. Biernacki, medical superintendent of the Plaistow Fever Hospital, as a contribution to the literature on the intravenous administration of diphtheritic antitoxin. Literature records are still scanty and it may be of interest to summarise some of the papers which have already been published on the subject.

Gagnoni[1] reported three cases of laryngeal diphtheria successfully treated by this method. The first case was complicated by broncho-pneumonia and in spite of very pronounced laryngeal symptoms on admission was not operated on but was given 2100 units of Behring's serum; a marked improvement was apparent a few hours after the injection. The second case was similar to the first but with no broncho-pneumonia and was treated in the same way. The third case presented the same symptoms on admission and also improved after the first injection, but a few hours later the laryngeal distress again increased and the child had to be intubated. This case was complicated by albuminuria for ten days. Gagnoni concludes by saying that in his cases the intravenous method had a beneficial effect on the temperature and the general condition of the patients.

Zamboni[2] gave an account of two cases of severe laryngeal diphtheria treated by intravenous injections with great improvement in the general condition of the patients and rapid fall of temperature. The first one received 1000 units of Behring's serum followed by a second injection, both given by direct puncture. In the second case 2000 units were given. In both there was abundant discharge of mucus and disintegrated membrane a few hours later; in from 24 to 48 hours after the injection the laryngeal symptoms had completely disappeared.

Richardière[3] says at p. 420: "In the primary toxic diphtheria I have tried repeated injections of serum even up to 100 cubic centimetres. I have injected the serum in the veins with no result. The prognosis has always been fatal."

Cairns[4] reported 50 cases of diphtheria, 20 of which were treated by intravenous injection. He is of opinion that no serious symptoms arise from the administration of large doses of serum, even from 20,000 to 80,000 units, beyond rheumatoid pains and cutaneous eruptions. He goes on to say that the amount of albumin is not increased—it may even be diminished; that by intravenous injection the maximum effect of the serum on the tissues is obtained with greater rapidity; and that if the administration of serum subcutaneously is not followed by as much improvement as one might expect, it suggests that the serum in its passage through the lymph glands undergoes changes whereby its power of neutralising toxins is considerably diminished. He says this may be due to: "(1) Selective action exercised by the lymphatic glands in filtering out the active constituent of the serum; or (2) to the fact that there is definite chemical action going on between toxin and antitoxin which takes place quicker in concentrated solutions than diluted ones." He then says that in diphtheria there may be a systemic infection due to the organism; it may cause a broncho-pneumonia and in these cases the excess of membrane must necessarily lead to considerable increase of toxins. And he thinks that "if the cure of diphtheria depends upon neutralisation of this toxin by the antibodies of the serum, the necessity for the immediate introduction into the circulation of large quantities of serum is self-evident." Cairns first tried intravenous injections in cases of broncho-pneumonia where tracheotomy did not completely relieve the symptoms. Four such cases were treated with complete success. Two of malignant diphtheria were then treated by this method and both recovered. The chief points observed were: "(1) Rapid disappearance of the signs of toxæmia; (2) rapid disappearance of glandular enlargement in malignant cases; and (3) marked diminution of restlessness in pneumonia cases." He treated 50 cases with three deaths, 20 by intravenous injection. Of the three deaths one was due to the malignant element, one to broncho-pneumonia, and one to paralysis. There were 17 tracheotomies (12 of which cases had broncho-pneumonia) with one death, a mortality of 5·8 per cent. instead of 34·7 per cent. in the previous year; amongst these cases 70 per cent. had rashes which appeared about the ninth day. The cases he chose for this treatment were those of the malignant type, cases with involvement of the lungs, toxæmic cases, and cases which were moribund on admission. Cairns attributes his good results to the intravenous treatment and finally remarks that "antitoxin serum given intravenously in large doses will give highly successful results even in cases which appear at first quite hopeless."

Mongour[5] treated three cases with success; two of these presented symptoms of paralysis on the third or fourth day. His opinion is that the injections were not followed by any disturbance; that they did not cause albuminuria; and that they should be used with subcutaneous injections in cases of toxic diphtheria and in laryngeal cases.

Cruveilhier[6] gave an account of his experiments on guinea-pigs and said that with intravenous injections of one cubic centimetre of serum a gain of six hours was obtained over subcutaneous injections of one-tenth of a cubic centimetre and a gain of four hours over the larger subcutaneous injection. He also says that intravenous injections may still be used four hours after intracerebral injections are without effect. He also tried the effects of the serum after giving injections of toxins, and he found that a subcutaneous injection of one-tenth of a cubic centimetre of antitoxin was of benefit ten hours after inoculation, 12 hours after if given by intracerebral injection, and 16 hours if given intravenously; two hours after all the other injections had failed the intravenous route was still beneficial. He says that the venous route is the best for the antitoxin as it insures a maximum effect.

Biernacki and Muir[7] have reported the largest number of cases. Their paper records two groups of cases treated at the Plaistow Hospital; the first group comprised seven cases with five deaths. Two brands of serum were employed and are identified as A and B. Three cases out of the seven had Serum A, and in all it produced circulatory disturbance with chill (in one instance a rigor) and pyrexia. The second group, in which Serum B alone was used, comprised 38 cases with three deaths; there were 14 naso-pharyngeal cases, 12 pharyngeal cases with one death, and 12 laryngeal cases with two deaths; tracheotomy was performed in three of these cases with one death. In the summary of results it is stated that those obtained in the second group seem in favour of the intravenous method, but, on the other hand, no definite proof can be given that they are better than if the cases had been treated by the subcutaneous method. The question is one that can only be settled by further work.

Marfan[8] lays stress on the insufficiency of the evidence and in his view definite conclusions cannot be drawn until further facts have been obtained. He is also of the opinion that it is unnecessary to complicate the serum-therapy by advising intravenous injections as this method requires a special practice if used in very young children, and although it may prove useful in cases of malignant diphtheria it will only be used on exceptional occasions. He thinks that the subcutaneous method will still be used for a long time to come.

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[1] Di tre Gravi Casi di Difterite Guariti con l'Iniezione nelle Vene di Siero Antidifterico, Gazzetta degli Ospedali e delle Cliniche, July 16th, 1899.

[2] Gazzetta degli Ospedali e delle Cliniche, April 8th, 1900.

[3] Remarques sur 1778 Cas de Diphtérie. Congrès International de Médecine, Paris, 1900. Section de Médecine de l'Enfance, p. 414.

[4] Treatment of Diphtheria by the Intravenous Administration of Anti-diphtheritic Serum, THE LANCET, Dec. 20th, 1902, p. 1685.

[5] Société de Médecine et de Chirurgie de Bordeaux, Feb. 20th, 1903.

[6] De la Valeur Thérapeutique des Injections de Serum dans la Diphtérie suivant les Doses et la Voie de Pénétration, Annales de l'Institut Pasteur, Jan. 25th, 1904.

[7] The Intravenous Injection of Antitoxin in Diphtheria, THE LANCET, Dec. 24th, 1904, p. 1774.

[8] Leçons Cliniques sur la Diphtérie, Paris, 1905.

The above brief review will give sufficient point to the necessity for more extensive statistics and it is as a contribution towards them that I report on 200 cases treated at the Plaistow Hospital from October, 1904, to April, 1906. The deaths in this series numbered 33. At first the injections were given by incision under a general anæsthetic; this was the method used in the Plaistow Hospital cases previously reported and in ten out of the present cases; however, it was found that the anæsthetic was a disadvantage, and at the beginning of 1905 direct puncture without an anæsthetic was adopted and has been since exclusively used.

A. *Technique of the intravenous injection.*—A few words as to the tecnique of intravenous injection may be serviceable; it may be done by incision or by direct puncture.

1. *By incision.*—The usual place chosen for the operation is the bend of the elbow. The skin is first thoroughly disinfected in the usual way; the arm is then placed on a sterilised towel and grasped by the nurse just below the axilla so as to make the veins more prominent. The syringe and needle are sterilised and kept in boric lotion; it is essential for the success of the operation that the needle should fit the syringe accurately. The antitoxin is poured into a sterilised medicine-glass and heated to blood heat by placing the glass in warm water. The patient is then anæsthetised with ethyl chloride or chloroform; an incision is made over the median cephalic vein which is thoroughly cleared. The syringe is filled with the serum. Picking up the coat with toothed forceps, the operator inserts the needle close to the end of the forceps in a direction parallel with the axis of the vein. The syringe is then carefully adjusted and emptied very slowly; the incision is closed with one stitch and a dressing is applied.

2. *By direct puncture.*—This requires a little more skill, especially in young and fat children. No anæsthetic or instruments are necessary. In infants the veins at the bend of the elbow are sometimes invisible; in these cases the external jugular or one of the dorsal veins of the foot may be used. The median cephalic is the one usually chosen; the preparations are the same as those described above, but no incision is required. The nurse holds the patient's arm fully extended with one hand just below the axilla and the other on the wrist, thus making the veins stand out. It is important that the arm should be kept absolutely still during the whole of the operation, as if the child is allowed to move the vein may be punctured in two places during the introduction of the needle or during the injection, the needle may slip out of the vein or damage the wall, and the antitoxin will find its way into the subcutaneous tissues. If the serum is escaping into the tissues the injection should be stopped and another vein tried or the serum given subcutaneously. A sharp-pointed thin needle is thrust straight into the vein in a direction parallel with its long axis. If the needle has penetrated there will be a free flow of blood; if only a few drops come away it may be that the wall has been just punctured and the point has been inserted between the coats; the needle should then be slightly withdrawn and pushed in a little further. The operation is completed in the same way as before and a pad of sterilised gauze and collodion applied to the puncture. The advantages of this method are that: (*a*) no anæsthetic is ever required; (*b*) no wound is made; (*c*) it is more rapid; and (*d*) there are no after-effects of the operation itself. The only disadvantage is that it cannot be used in every case for the reasons given above and it requires a little more practice.

B. *Immediate effects of the intravenous injections.*—These effects vary somewhat with the serum used; two different brands of serum have been given in this hospital—serum A and serum B. Serum A was given to three out of the seven first cases in the paper already cited but it gave rise to such marked circulatory depression that serum B was exclusively used for several months. At the end of 1904 and the beginning of 1905 a second series of 12 cases were treated with a modified serum A with four deaths. In some of them the immediate disturbance was well marked so that it was again given up and during 1905 serum B was practically the only one used.[9]

1. *Effects of serum A as a whole.*—The most constant forms of disturbance were pyrexia and a rash. In all the cases there was a rise of temperature during the first three hours following the injection (in one case to 106·6° F. and in another to 105° as shown on charts A and B). This was accompanied by chilliness (in some cases by a rigor), depression, and occasionally vomiting; in one case an urticarial rash appeared a few minutes after the injection. In the others the rash appeared at the usual time but it was always very profuse and accompanied by œdema of the face and extremities. Out of the 12 cases of this series, two presented the most marked symptoms, viz.:—

CASE 64.—A girl, aged six years, was admitted on Feb. 27th, 1905, on the fourth day of the disease. The temperature was 101·8° F., the pulse was 118, and the respirations were 24. There was a thick white membrane covering the whole of the fauces, including a considerable part of the soft palate. Both sides of the neck were very much swollen. At 7 P.M. 30,000 units of serum A were given by direct puncture. At 8 P.M. the temperature had risen to 106·6° and the child had a rigor. The temperature soon came down and was 101° three hours later (see Chart A). On the 28th, 23,000 units were given and on March 1st, 20,000; both injections were given subcutaneously and both were followed by a rise of temperature of 1½°. There was then much albumin in the urine. On the 3rd the pharynx was clean but the child began vomiting; she had almost complete anuria and died on the next day.

CASE 29.—A girl, aged four years, was admitted on Dec 24th, 1904, on the third day of the disease. The temperature was 98·6° F., the pulse was 122, and the respirations were 26. Both tonsils were covered with membrane and also the soft palate. An injection of 10,000 units of serum A was given by direct puncture at 3.40 P.M.; at 4.40 P.M. the temperature had risen to 105° and there was some chilliness but no rigor. Four hours later the temperature was 98°. A profuse rash

CHART A. CHART B. CHART C. CHART D.

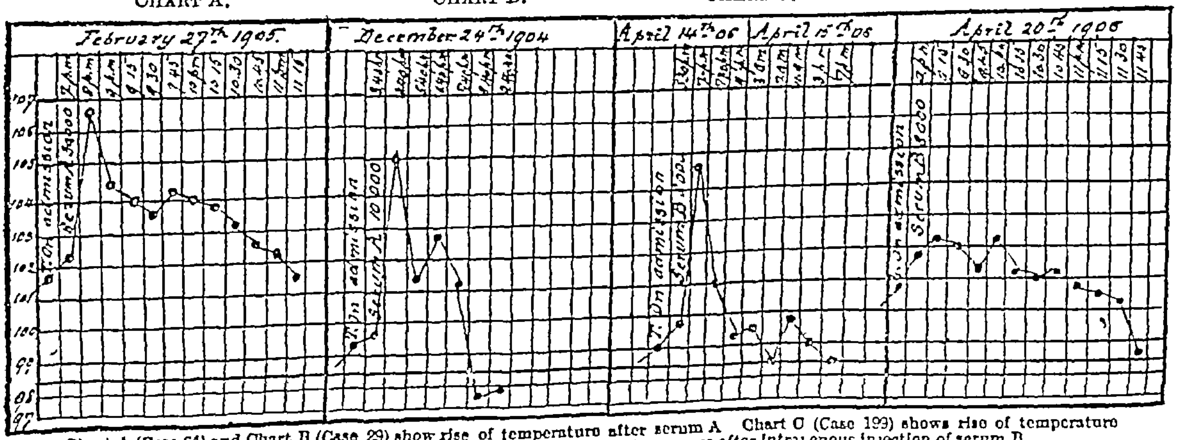

Chart A (Case 64) and Chart B (Case 29) show rise of temperature after serum A Chart C (Case 199) shows rise of temperature after serum B. Chart D (Case 196) shows ordinary temperature curve after intravenous injection of serum B.

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[9] In England very little has so far been written about these effects of the serum; in France Professor Roger, Dr. Folx, and others have lately described fully severe toxic symptoms which may follow even subcutaneous injections of antitoxin.

with œdema came out on the seventh day. The child improved rapidly and was discharged in the sixth week (see Chart B).

The following table shows the maximum rise of temperature after the injection and the dose of antitoxin given in the other 10 cases:—

TABLE I.

	Temperature.	Units of antitoxin.		Temperature.	Units of antitoxin.
Case 70	104·6° F.	40,000	Case 75	100·4° F.	10,000
„ 22	103·4	10,000	„ 63	99·6	20,000
„ 19	103·4	20,000	„ 20	99·0	20,000
„ 34	102·8	20,000	„ 26	101·2	10,000
„ 23	101·8	10,000	„ 27	No rise	40,000

Cases 70, 23, 75, and 20 vomited shortly after the injection. Case 70 developed an urticarial rash ten minutes after the injection. Case 27 was brought in moribund with very urgent laryngeal symptoms; tracheotomy was performed at once with complete relief but the child died four hours later without showing any rise of temperature. Case 26 was a baby, aged eight months, a very severe laryngeal case, not relieved by intubation. Tracheotomy was performed but the child died from broncho-pneumonia in the second week. Case 75 was a very severe pharyngeal case which died in the second week from cardiac paralysis. It will be noticed from the above table that the rise of temperature is not in proportion to the dose of serum given.

A third series of cases has been treated with a second modification of serum A during last January. Four cases were treated intravenously; only one had a rise of temperature to 101·8° and all recovered.

2. *Effects of serum B as a whole.*—The other 184 cases of the present series all had serum B. If we compare the effect on the temperature we shall find that the highest temperature was 104·6° F., with a rigor (see Chart C). Out of these 184, 20 only had a rise of more than 2°, whilst in the first 12 treated with serum A eight cases had a rise of 2° and the others 3° or 4° after the injection. Comparing the rashes, they have never been so severe and never accompanied by œdema; no vomiting has ever followed the injection. The following table shows the maximum rise of temperature and the dose of serum given to the 20 cases mentioned above.

TABLE II.

	Temperature.	Units of Antitoxin.		Temperature.	Units of antitoxin.
Case 199*	104·6° F.	8,000	Case 156	102·4° F.	6,000
„ 3	103·8	20,000	„ 141	„	8,000
„ 65	103·6	20,000	„ 60	„	„
„ 42	103·2	4,000	„ 132	„	6,000
„ 45	103·4	16,000	„ 184	102·2	8,000
„ 129†	102·8	6,000	„ 122	102·0	4,000
„ 92	„	„	„ 169	101·2	6,000
„ 82	„	16,000	„ 48	101·0	12,000
„ 94	„	6,000	„ 112	„	6,000
„ 83	102·6	„	„ 96	„	8,000

* Rigor. † Rash 36 hours after injection.

Here again we see no relation between the rise of temperature and the dose of antitoxin given. The effects on the albuminuria were not definite; several cases (50 out of the 200) had albumin either on admission or shortly afterwards, but it is difficult to say whether the serum had anything to do with its later appearance or not.

BRIEF RECORD OF THE 200 CASES TREATED BY INTRAVENOUS INJECTIONS.

The cases may be divided into: A, pharyngeal; B, laryngeal; C, pharyngo-laryngeal; D, hæmorrhagic; and E, mixed (i.e., scarlet fever and diphtheria).

A. *Pharyngeal cases.*—Each class will be subdivided into mild, severe, and very severe, according to the extent of the membrane and the gravity of the symptoms.

1. *Mild pharyngeal cases.*—In some of these cases there was only a small patch of membrane on one tonsil, in others both were completely covered; there were no lymphadenitis and no nasal discharge; a few had a trace of albumin (ten in this group). There were 90 cases of this type and all of them recovered. Out of these 67 had the whole of the antitoxin intravenously; the others had it partly subcutaneously, partly intravenously. The total doses given varied between 2000 and 20,000 units. All the antitoxin was given by direct puncture; five cases had serum A (Nos. 22, 23, 29, 178, and 181). The three first had a rise of temperature (*vide supra*, Table I.), the two others belonged to the third series treated with this serum and did not show any reaction. The other 85 had serum B and 11 of them had a rise of *temperature within three hours after the injection.*

2. *Severe pharyngeal cases.*—In these the membrane covered the tonsils, the pillars of the fauces, and the uvula. There was some nasal discharge with lymphadenitis on one or both sides of the neck. Albumin was present in eight out of the 30 cases of this group. Three cases died, a mortality of 10 per cent.; death was due to paralysis, which in two cases occurred in the second week and in the other in the sixth week. The total doses of antitoxin varied between 20,000 and 70,000 units; in 13 cases it was all given intravenously (one of these died), in the others partly in that way and partly subcutaneously. One patient had serum A with a rise of temperature to 101·8°; this one belonged to the third series treated with this serum. All the others had Serum B by direct puncture except one in which it was given by incision. Five of these had a rise of temperature (Cases 48, 65, 82, 96, and 169. See Table II.) The three who died were amongst those who had Serum B by direct puncture.

3. *Very severe pharyngeal cases.*—The membrane extended over both tonsils, uvula, soft palate, and posterior wall of the pharynx. In this group are included cases of the septic type with profuse discharge from the nose and throat and great swelling of the glands of the neck with œdema. There was marked albuminuria in 17 of the 31 cases of this group, 16 of which died, a mortality of 51·64 per cent. Death was due to cardiac paralysis and occurred in the second week, in one case in the sixth week. Cases 19, 64, 70, and 75 were treated with serum A by direct puncture; Cases 64 and 75 died; in Case 64 the temperature rose to 106·6° F, with a rigor (see Chart A). The other 27 had serum B by direct puncture except two who had it by incision. In one of these (Case 3) and also in Cases 94 and 42 a rise of temperature followed the injection. The total doses of antitoxin were between 20,000 and 110,000 units; four cases had all the serum injected intravenously and two of these died; the others had it partly by that method and partly subcutaneously. Case 173 had no rise of temperature but the injection of serum B was followed by depression and a profuse urticarial rash a few minutes later.

It would be impossible to give notes on each of the 31 cases of this group but the following two illustrate very well the severity of the type.

CASE 70.—A girl, aged six years, was admitted on March 4th, 1905, on the fourth day of the disease. Thick membrane covered both tonsils, *the uvula, and the soft palate.* The posterior wall of the pharynx was not visible on account of swelling at the isthmus. There was no discharge from the nose on admission but the child was very pale and the glands on both sides of the neck *were markedly enlarged.* The temperature was 101° F., the pulse was 128, and the respirations were 28. The lungs were *normal; some accentuation* of the aortic second sound was present. 30,000 units of serum A were injected by direct puncture, *the temperature* rose to 104·6° two hours after the injection and the child vomited. On the 5th the condition *of the throat* was *unchanged* and 30,000 units of serum B were given by direct puncture. On the 6th the throat still showed little *change; 20,000 units* of serum B were injected. On the 8th the membrane had largely disappeared and left a blackish slough. *On the 10th albuminuria* appeared and was present for four weeks. On the 14th there was *paralysis of the* soft palate, *the first heart sound* was weaker and the pulse was irregular. On the 25th cardiac dilatation was present with *vomiting and a small* irregular pulse; the child had to be fed per rectum for over a week. On the 28th there was aphonia with signs of laryngeal obstruction due to paralysis of the laryngeal muscles; intubation was performed with complete relief. The *heart remained* weak *until the twelfth* week; at the beginning of the thirteenth week the child was allowed to sit up. From that *time* she improved slowly and was discharged quite well during the fourteenth week.

CASE 153.—A girl, aged five years, was admitted on Sept. 9th, 1905, on the third day of the disease. On *admission* there was membrane on both tonsils, the *soft* palate, and the uvula which practically blocked the isthmus of the fauces. Discharge from the nose was profuse and offensive and lymphadenitis with œdema was present on both sides of the neck. The temperature was 100·8° F., the pulse was 129, and the respirations were 22. The urine contained a trace *of* albumin. The child was very pale, drowsy, and her *general* appearance in keeping with septic diphtheria. 26,000 units of *serum B* were given intravenously by direct puncture and 12 hours later 20,000 units subcutaneously. On the 10th the membrane appeared to be thicker on the palate; 40,000 units *of antitoxin* were injected subcutaneously *in two* doses. On the 11th it still showed no sign of becoming loose and 14,000 units were *given.* The uvula was pushed forward by the swollen tonsils and appeared to be entirely buried in thick *membrane. On the* 12th 8000 units were given subcutaneously; more membrane had *formed* and thick pieces *of* it completely *obliterated* the space between the *tonsils* and the uvula. The child began vomiting and continued on and off until death. Peptonised milk was first tried, but eventually rectal feeds had to be resorted *to.* On the 13th the membrane began to separate from the tonsils; the *temperature* was 101° and the pulse was 140 and of low tension. On the 14th the pharynx was almost clear; *the* pulse was intermittent, very small, and the colour was livid. In the evening the child became more restless; there was constant *vomiting* and the urine was scanty. Death occurred on the 15th.

A mortality of 51·64 per cent. appears at first sight very high but the results obtained in this group were considered satisfactory, taking into account the severity of the type, as most of the cases can be fairly called malignant in the sense in which the term is generally used by clinicians.

B. Laryngeal cases.—There was no pharyngeal membrane in any of these 18 cases at the time of admission; they were sent in on the score of laryngeal obstruction.

1. *Mild laryngeal cases.*—The symptoms in these cases, three in number, were not urgent and were relieved by steam; in all of them recovery ensued without operation. All the antitoxin was given intravenously by direct puncture. Two had 8000 units of serum B each in one dose. The other (Case 34) was found to have albuminuria on admission; 20,000 units of serum A were injected, after which there was a rise to 102·8° (see Table I.).

2. *Severe laryngeal cases.*—Intubation was performed on admission in the ten cases of this group and all recovered. The total doses varied between 8000 and 30,000 units. In two of them it was given entirely intravenously; in the others partly in that way and partly subcutaneously. In nine cases direct puncture was employed; in one, incision; all received serum B. In three, albuminuria was present. None had a rise of temperature. The following list shows the doses of serum given and the date of extubation.

CASE 165.—A boy, aged three years, was admitted on the third day of the disease. He had 10,000 units of antitoxin by incision. He was permanently extubated on the seventh day; the tube was once removed during the seven days but had to be returned at the end of 24 hours.

CASE 198.—A boy, aged three years, was admitted on the fourth day of the disease. He had 10,000 units of antitoxin intravenously and 16,000 subcutaneously. He was permanently extubated on the eighth day. He was tried twice without the tube but was re-intubated within half an hour.

CASE 114.—A girl, aged two years, was admitted on the second day of the disease. She had 8000 units of antitoxin intravenously and 32,000 subcutaneously. She was permanently extubated on the eighth day and then put in steam for 42 hours.

CASE 91.—A girl, aged six years, was admitted on the third day of the disease. She had 20,000 units of antitoxin intravenously and was permanently extubated on the fourth day.

CASE 71.—A girl, aged six years, was admitted on the second day of the disease. She had 4000 units of antitoxin intravenously and 30,000 subcutaneously. She was permanently extubated on the third day.

CASE 107.—A boy, aged five years, was admitted on the second day of the disease. He had 22,000 units intravenously and 12,000 subcutaneously. He coughed up the tube at the end of the third day and did not need re-intubation.

CASE 90.—A boy, aged four years, was admitted on the first day of the disease. He had 8000 units intravenously. The tube was coughed up at the end of 16 hours and did not require to be returned. The child was put in steam for 48 hours.

CASE 97.—A boy, aged six years, was admitted on the fourth day of the disease. He was given 8000 units of antitoxin intravenously and 8000 subcutaneously. He was permanently extubated at the beginning of the fourth day.

CASE 110.—A girl, aged five years, was admitted on the second day of the disease. She had 8000 units intravenously and 16,000 subcutaneously. She was permanently extubated on the third day.

CASE 108.—A boy, aged six years, was admitted on the fifth day of the disease. He had 8000 units intravenously and 16,000 subcutaneously. The tube was permanently removed on the third day.

On comparing these cases it will be noticed that six of them were permanently extubated on the third day and one on the fourth, which may be considered as early, since all were admitted with urgent laryngeal symptoms and needed prompt interference.

3. *Very severe laryngeal cases.*—In these tracheotomy was either done on admission or intubation was first tried but did not relieve the condition and a secondary tracheotomy was performed. There were five cases in this group with one death, which was due to broncho-pneumonia. One had all the serum intravenously; the others partly intravenously and partly subcutaneously. In two cases the injection was given by incision, serum A being used in one and serum B in the other. None had pyrexia after the injection.

CASE 20.—A girl, aged two years, was admitted on the third day of the disease. Tracheotomy was done six hours after admission; the tube was removed on the fourth day. 20,000 units of serum A were injected by incision. The child was discharged well in the ninth week.

CASE 24.—A girl, aged two and a half years, was admitted on the first day of the disease. There was not much recession on admission but it increased after 48 hours. Tracheotomy was performed on the third day and the tube was removed in 38 hours. 20,000 units of serum B were given by direct puncture. She was discharged well in the fifteenth week.

CASE 93.—A boy, aged three years, was admitted on the third day of the disease. On admission there were laryngeal cough and recession. The child was put in steam but recession increased and intubation was performed. On the sixth day breathing was not possible without the tube, which was repeatedly coughed up soon after insertion, owing probably to the presence of an ulcer, and tracheotomy had to be done. The tube was removed in four days. 6000 units of serum B were injected by direct puncture and 8000 subcutaneously. The child was discharged well in the fifth week.

CASE 86.—A girl, aged one year, was admitted on the ninth day of the disease with marked laryngeal obstruction, recession, and cyanosis. Tracheotomy was done on admission with complete relief and the tube was removed in five days. 20,000 units of serum B were given by incision and 18,000 units subcutaneously. She was discharged well in the eighth week.

CASE 69.—A boy, aged two years, was admitted on the second day of the disease. He was brought in with extreme recession and stridulous breathing. Tracheotomy was performed on admission with complete relief. 20,000 units of serum B were given by direct puncture and 16,000 subcutaneously. The child died in the second week from broncho-pneumonia.

C. Pharyngo-laryngeal cases.—These were admitted with signs of laryngeal obstruction and membrane on the pharynx.

1. *Mild pharyngo laryngeal cases.*—Cases 33, 66, 88, and 194 belonged to this group. Case 66 had serum A with a slight rise of temperature (see Table I.). The other three had serum B with no rise. Cases 66, 33, and 194 had all the serum intravenously; Case 88 had one dose intravenously and one subcutaneously. All recovered, none requiring operation.

2. *Severe pharyngo-laryngeal cases.*—These had, apart from a marked angina with membrane, urgent dyspnœa necessitating intubation on admission. There were eight in this group with two deaths; five had albuminuria. All had serum B by direct puncture; in two of them it was all given intravenously. The following list gives the total doses of serum given and the date of permanent extubation.

CASE 103.—A girl, aged four years, was admitted on the second day of the disease. Membrane was present on the tonsils; there were also recession and dyspnœa. She was intubated on admission and the tube was permanently removed on the fourth day. 16,000 units of antitoxin were injected intravenously and 8000 subcutaneously. The child was discharged in the fifth week.

CASE 99.—A girl, aged seven years, was admitted on the fifth day of the disease with scarlet fever. During convalescence membrane developed on the tonsils; laryngeal stenosis ensued and the child was intubated. She was permanently extubated on the tenth day. She had 10,000 units of antitoxin intravenously and 18,000 subcutaneously.

CASE 93.—A boy, aged five years, was admitted on the third day of the disease with some membrane on the pharynx and laryngeal symptoms. He was intubated 18 hours after admission; the tube was coughed up two and a half hours later and re-intubation was not necessary. He was put in steam for a few hours. 16,000 units of antitoxin were given intravenously.

CASE 163.—A boy, aged five years, was admitted on the fifth day of the disease with membrane on both tonsils, recession, and dyspnœa. He was intubated at once; the tube was coughed up four hours later and did not require to be replaced as steam relieved the condition. He was given 6000 units of antitoxin intravenously and 8000 subcutaneously.

CASE 179.—A boy, aged three years, was admitted on the second day of the disease with membrane on the tonsils and laryngeal distress. He was intubated on admission; the tube was permanently removed on the fourth day. He received 8000 units of antitoxin intravenously.

CASE 193.—A girl, aged four years, was admitted on the sixth day of the disease with pharyngeal membrane and severe laryngeal symptoms. She was intubated at once and extubated on the eighth day. She had 16,000 units of antitoxin intravenously.

CASE 152.—A girl, aged nine months, was admitted on the sixth day of the disease with membrane on both tonsils and recession. Intubation was done on admission and she died on the fourth day from heart failure. She received 17,000 units intravenously and 19,000 subcutaneously.

CASE 147.—A boy, aged two years, was admitted on the fourth day of the disease with membrane on the pharynx, laryngeal symptoms, and Koplik's spots. He was intubated on admission. Measles rash came out on the second day and he was extubated on the third day. He was given 12,000 units intravenously and 30,000 subcutaneously and died from broncho-pneumonia in the second week.

3. *Very severe pharyngo laryngeal cases.*—In these tracheotomy was performed on admission or secondary to intubation. There were three patients in the group with two deaths. All three (Cases 180, 26, and 27) had serum A; in Case 27 it was given by incision.

CASE 26.—A boy, aged eight months, was admitted on what was stated to be the first day of the disease with membrane on the tonsils and soft palate. Intubation was performed soon after admission. Temporary relief followed but the laryngeal symptoms reappeared in a few hours. Tracheotomy was performed, but the child died from broncho-pneumonia in the second week. He received 20,000 units of antitoxin intravenously.

CASE 27.—A boy, aged two years, was admitted on the sixth day of the disease with membrane on both tonsils, soft palate, and pharynx in the last stage of asphyxia. Tracheotomy was done at once and a large piece of membrane was coughed up through the wound. Complete respiratory relief followed but the child died from heart failure nine hours later. He had 40,000 units of serum A intravenously by incision.

CASE 180.—A girl, aged eight years, was admitted on the fourth day of the disease with some membrane on the tonsils and urgent laryngeal symptoms. Intubation was first tried but it did not relieve the condition and tracheotomy was performed with complete relief. The tube was removed on the fourth day. 10,000 units of antitoxin serum A were given by direct puncture.

D. Hæmorrhagic cases of a grave type.—Most of these were brought in late in the attack and they all very soon developed subcutaneous ecchymoses and hæmorrhages from the mucous membranes—practically a fatal sign in diphtheria. There were seven patients in the group and all died. Two cases had all the serum intravenously; very large doses were given, up to 110,000 in one case. Death occurred within the first ten days from the onset. Four patients had albuminuria; in two cases no specimen could be saved. In all of them serum B was used, two having it by incision. It will be sufficient to give notes of one case in this group.

Case 106.—A girl, aged four years, was admitted on May 17th, 1905, on what was said to be the third day of the disease. Both tonsils were covered with thick membrane extending to the uvula and the soft palate. The cervical glands were much enlarged, especially on the right side. The pulse was 120 and feeble, and the temperature was 101·2° F. The urine contained a trace of albumin; the heart sounds were clear but weak. The child was pale, with some lividity about the mouth and nose. An injection of 18,000 units of antitoxin was given subcutaneously and 6000 intravenously. On the 18th 4000 units were given intravenously and 2000 subcutaneously; the membrane had extended on the soft palate and appeared thicker; on the evening of the same day 18,000 units were injected subcutaneously. On the 19th hæmorrhagic spots became evident on the trunk and limbs; some of them soon enlarged and looked like bruises. There was bleeding from the nose and the lips were ulcerated and oozed continuously. The child began vomiting and continued until death which occurred on the 27th.

E. *Mixed cases.*—These were admitted with scarlet fever and diphtheria. There were nine patients in this group, with two deaths; one of the recovery cases had croup and was tracheotomised. The two deaths were due to bronchopneumonia and cardiac paralysis. Serum B was alone used; it was all given intravenously in four cases, one of which had it by incision.

Results.—From October, 1904, to April, 1906, altogether 660 cases of diphtheria were treated in the Plaistow Hospital, with 92 deaths. Comparing this death rate with that of the cases treated by the intravenous method it will be seen that it is 13·94 per cent. in the former and 16·5 per cent. in the latter. This is partly due to the fact that all the "very severe cases" were chosen for the intravenous treatment. Out of the 200 cases there were nine tracheotomies, with three deaths—a mortality of 33 per cent.—and there were 18 intubations, with two deaths—a mortality of 10·10 per cent.

NOTES ON PURIN-FREE DIETS.

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Just over a year ago I published a paper entitled "The Advantages of a Purin-Free Diet."[1] The numerous inquiries I have since had from medical men all over the kingdom, many of whom have themselves consulted me as patients, show how widespread is the interest in the subject and how little even now it is understood. It may therefore be useful to give here more precise details and to attempt to meet some of the more common difficulties. In the earlier paper I explained the importance of constant supervision for all cases under treatment on these lines; the pitfalls are numerous, and those who set out to reform themselves or others without any study of the subject run considerable risk. Many therefore, who make a half-hearted trial, give it up in disgust. On the other hand, patients who have given the system a thorough test, for not less than six months, are so convinced of its value as to express a determination not to return to their former mode of life.

The purin bodies include all those constructed on the base C_5N_4. Some 12 different combinations of this kind are known to exist in nature, while a large number have been produced in the laboratory. Those of ordinary occurrence are uric acid, caffein, theobromin, xanthein, hypoxanthin, guanin, and adenin. These are found in meat and meat extracts, and especially in glandular organs, such as the pancreas and liver; they occur in smaller amount in many vegetables and in certain other articles of diet.

The mere fact that a diet is purin-free is of little value unless attention is paid to the other factors essential for healthy digestion. Thus the amount of food should be small, the meals few, and mastication efficient. At the same time, the food should be plain. The tendency in some quarters to adopt a fruitarian diet and then spoil it by rich sauces and elaborate cooking, to say nothing of spices, pickles, vinegar, and condiments, is only likely to breed disappointment and disgust. The man or woman who forswears meat and lives on highly flavoured dishes, with cream and other rich accessories would do much better on a plain mutton chop or a fish dinner. If, however, simplicity is made the first essential, then much further benefit can be obtained by discarding all those articles of food and drink which contain uric acid and allied bodies in excess. The fact that nearly all foods contain minute traces would seem to indicate that eliminating them altogether is a counsel of perfection we were not intended to contemplate. What we want to aim at is a reasonable minimum; for this purpose the purin percentage table will be useful. The condition of "hyper-pyræmia," due to an excess of carbohydrates, recently described as the underlying element in many disorders, is not developed on a properly-arranged fruitarian diet; all excesses are bad and too much starchy food in conjunction with meat is especially injurious.

In my first paper I referred to the value of this mode of treatment in chronic disease. It is unnecessary to quote further instances of successful treatment or do more than state that some of the patients before referred to and many of those since treated on similar lines were suffering not merely from functional illness but from organic disease such as cardiac and renal trouble. Believing, as I do, that functional disturbance is but a warning, too often neglected, of the ultimate onset of organic disease, it is only reasonable that the same treatment should be efficacious in both. Excellent as are the results obtained in chronic mischief they bear no comparison with those that may be effected in acute illness. The progress of events is often startling to those who have had no previous experience of this system; the course run is benign, out of all proportion to the mode of onset, supposing an ordinary diet to have been the previous habit. For instance, in pneumonia the temperature often quickly falls by lysis and all the difficulties and dangers of a crisis are avoided. I need hardly say that such excellent results can only be obtained by bold and consistent action. Any attempt to graft the new method on the old is likely to be fraught with disaster; this explains why so many practitioners condemn the innovation and say that fruit must be avoided in illness. Given with beef-tea and stimulants it does more harm than good, but if the beef-tea and stimulants are *entirely* discarded, the medicines reduced to a minimum, and all nourishment taken in the form of milk or fruit juice, results are obtained which can never be got by more orthodox treatment. The diet suitable for acute disease is simplicity itself. In the first place we have milk, which may be diluted with soda water and given cold or warm; it should never be boiled, as in the process the antiscorbutic properties are destroyed and much of the albumin coagulated. An excellent plan is to give two ounces of milk regularly every two hours from the start. Administered in this way milk can often be taken all through an acute illness. Should the taste pall, varying flavours may be imparted by such methods as heating the milk in the oven instead of a saucepan, or cooking slowly with rice and subsequent straining. The feeds of milk may alternate with, or be replaced by, fresh fruit juice, of which that from grapes or oranges is the best. In some cases the whole grape may be eaten, or a banana, care being taken to scrape off the indigestible external fibres left after peeling; changes may be rung on pineapple juice, cooked apples, &c. To the large majority of patients such foods are exceptionally grateful. In cases where generous nourishment is required the most valuable form is white of egg, which may be given beaten up with milk or water and sugar. Many invalids find nothing more refreshing and sustaining than egg lemonade, made by shaking up the juice of half a lemon and the white of an egg in a large bottle with half a pint of cold water, and adding sugar as required. In addition, we have Benger's and similar milk foods, to say nothing of jelly, Grape Nuts, Force, and other proprietary articles of value.

Treatment on these lines is not only successful in the first instance but also obviates those after consequences, such as acute rheumatism, so frequently seen when stimulants and meat extracts are freely administered. If only our large hospitals, instead of constantly appealing for increased subscriptions and pandering to the popular taste, would devote their energies more to working out the best dietaries on these lines, and to instructing the public how to live healthily,

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[1] The Lancet, June 17th, 1905, p. 1636.

A mortality of 51·64 per cent. appears at first sight very high but the results obtained in this group were considered satisfactory, taking into account the severity of the type, as most of the cases can be fairly called malignant in the sense in which the term is generally used by clinicians.

B. Laryngeal cases.—There was no pharyngeal membrane in any of these 18 cases at the time of admission; they were sent in on the score of laryngeal obstruction.

1. *Mild laryngeal cases.*—The symptoms in these cases, three in number, were not urgent and were relieved by steam; in all of them recovery ensued without operation. All the antitoxin was given intravenously by direct puncture. Two had 2000 units of serum B each in one dose. The other (Case 24) was found to have albuminuria on admission; 20,000 units of serum A were injected, after which there was a rise to 102·8° (see Table I.).

2. *Severe laryngeal cases.*—Intubation was performed on admission in the ten cases of this group and all recovered. The total doses varied between 8000 and 30,000 units. In two of them it was given entirely intravenously; in the others partly in that way and partly subcutaneously. In nine cases direct puncture was employed; in one, incision; all received serum B. In three, albuminuria was present. None had a rise of temperature. The following list shows the doses of serum given and the date of extubation.

CASE 165.—A boy, aged three years, was admitted on the third day of the disease. He had 10,000 units of antitoxin by incision. He was permanently extubated on the seventh day; the tube was once removed during the seven days but had to be returned at the end of 25 hours.

CASE 132.—A boy, aged three years, was admitted on the fourth day of the disease. He had 10,000 units of antitoxin intravenously and 10,000 subcutaneously. He was permanently extubated on the eighth day. He was tried twice without the tube but was re-intubated within half an hour.

CASE 114.—A girl, aged two years, was admitted on the second day of the disease. She had 8000 units of antitoxin intravenously and 22,000 subcutaneously. She was permanently extubated on the eighth day and then put in steam for 42 hours.

CASE 91.—A girl, aged six years, was admitted on the third day of the disease. She had 20,000 units of antitoxin intravenously and was permanently extubated on the fourth day.

CASE 71.—A girl, aged six years, was admitted on the second day of the disease. She had 4000 units of antitoxin intravenously and 20,000 subcutaneously. She was permanently extubated on the third day.

CASE 107.—A boy, aged five years, was admitted on the second day of the disease. He had 22,000 units intravenously and 12,000 subcutaneously. He coughed up the tube at the end of the third day and did not need re-intubation.

CASE 50.—A boy, aged four years, was admitted on the first day of the disease. He had 8000 units intravenously. The tube was coughed up at the end of 16 hours and did not require to be returned. The child was put in steam for 44 hours.

CASE 97.—A boy, aged six years, was admitted on the fourth day of the disease. He was given 6000 units of antitoxin intravenously and 8000 subcutaneously. He was permanently extubated at the beginning of the fourth day.

CASE 110.—A girl, aged five years, was admitted on the second day of [illegible] intravenously and 10,000 subcutaneously. [illegible] the third day. [illegible] was admitted on the fifth day of the [illegible] venously and 15,000 subcutaneously. The tube was permanently removed on the third day.

On comparing these cases it will be noticed that six of them were permanently extubated on the third day and one on the fourth, which may be considered as early, since all were admitted with urgent laryngeal symptoms and needed prompt interference.

3. *Very severe laryngeal cases.*—In these tracheotomy was either done on admission or intubation was first tried but did not relieve the condition and a secondary tracheotomy was performed. There were five cases in this group with one death, which was due to broncho-pneumonia. One had all the serum intravenously; the others partly intravenously and partly subcutaneously. In two cases the injection was given by incision, serum A being used in one and serum B in the other. None had pyrexia after the injection.

CASE 20.—A girl, aged two years, was admitted on the third day of the disease. Tracheotomy was done six hours after admission; the tube was removed on the fourth day. 20,000 units of serum A were injected by incision. The child was discharged well in the ninth week.

CASE 24.—A girl, aged two and a half years, was admitted on the first day of the disease. There was not much recession on admission but it increased after 42 hours. Tracheotomy was performed on the third day and the tube was removed in 25 hours. 20,000 units of serum B were given by direct puncture. She was discharged well in the fifteenth week.

CASE 93.—A boy, aged three years, was admitted on the third day of the disease. On admission there were laryngeal cough and recession. The child was put in steam but recession increased and intubation was performed. On the sixth day breathing was not possible without the tube, which was repeatedly coughed up soon after insertion, owing probably to the presence of an ulcer, and tracheotomy had to be done. The tube was removed in four days. 6000 units of serum B were injected by direct puncture and 6000 subcutaneously. The child was discharged well in the fifth week.

CASE [illegible].—A girl, aged one year, was admitted on the ninth day of the disease with marked laryngeal obstruction, recession, and cyanosis. Tracheotomy was done on admission with complete relief and the tube was removed in five days. 20,000 units of serum B were given by incision and 12,000 units subcutaneously. She was discharged well in the eighth week.

CASE 19.—A boy, aged two years, was admitted on the second day of the disease. He was brought in with extreme recession and stridulous breathing. Tracheotomy was performed on admission with complete relief. 20,000 units of serum B were given by direct puncture and 19,000 subcutaneously. The child died in the second week from broncho-pneumonia.

C. Pharyngo-laryngeal cases.—These were admitted with signs of laryngeal obstruction and membrane on the pharynx.

1. *Mild pharyngo laryngeal cases.*—Cases 23, 68, 83, and 194 belonged to this group. Case 68 had serum A with a slight rise of temperature (see Table I.). The other three had serum B with no rise. Cases 68, 33, and 194 had all the serum intravenously; Case 83 had one dose intravenously and one subcutaneously. All recovered, none requiring operation.

2. *Severe pharyngo-laryngeal cases.*—There had, apart from a marked angina with membrane, urgent dyspnœa necessitating intubation on admission. There were eight in this group with two deaths; five had albuminuria. All had serum B by direct puncture; in two of them it was all given intravenously. The following list gives the total doses of serum given and the date of permanent extubation.

CASE 192.—A girl, aged four years, was admitted on the second day of the disease. Membrane was present on the tonsils; there were also recession and dyspnœa. She was intubated on admission and the tube was permanently removed on the fourth day. 11,000 units of antitoxin were injected intravenously and 8000 subcutaneously. The child was discharged in the fifth week.

CASE 93.—A girl, aged seven years, was admitted on the fifth day of the disease with scarlet fever. During convalescence membrane developed on the tonsils; laryngeal stenosis ensued and the child was intubated. She was permanently extubated on the tenth day. She had 19,000 units of antitoxin intravenously and 17,000 subcutaneously.

CASE 92.—A boy, aged five years, was admitted on the third day of [illegible] membrane on the pharynx and laryngeal sym[illegible] after admission; the tube was [illegible] and re-intubation was not neces[illegible] hours. 19,000 units of antitoxin were given intravenously.

CASE 163.—A boy, aged five years, was admitted on the fifth day of the disease with membrane on both tonsils, recession, and dyspnœa. He was intubated at once; the tube was coughed up four hours later and did not require to be replaced as steam relieved the condition. He was given 6000 units of antitoxin intravenously and 6000 subcutaneously.

CASE 173.—A boy, aged three years, was admitted on the second day [illegible] tonsils and laryngeal distress. He [illegible] was permanently removed on the [illegible] toxin intravenously. [illegible] admitted on the sixth day of the disease with pharyn[illegible] brane and severe laryngeal symptoms. She was intubated at once and extubated on the eighth day. She had 19,000 units of antitoxin intravenously.

CASE 192.—A girl, aged nine months, was admitted on the sixth day of the disease with membrane on both tonsils and recession. Intubation was done on admission and she died on the fourth day from heart failure. She received 17,000 units intravenously and 19,000 subcutaneously.

CASE 147.—A boy, aged two years, was admitted on the fourth day of the disease with membrane on the pharynx, laryngeal symptoms, and Koplik's spots. He was intubated on admission. Measles rash came out on the second day and he was extubated on the third day. He was given 12,000 units intravenously and 20,000 subcutaneously and died from broncho-pneumonia in the second week.

3. *Very severe pharyngo laryngeal cases.*—In these tracheotomy was performed on admission or secondary to intubation. There were three patients in the group with two deaths. All three (Cases 189, 26, and 27) had serum A; in Case 27 it was given by incision.

CASE 26.—A boy, aged eight months, was admitted on what was stated to be the first day of the disease with membrane on the tonsils and soft palate. Intubation was performed soon after admission. Temporary relief followed but the laryngeal symptoms reappeared in a few hours. Tracheotomy was performed, but the child died from broncho-pneumonia in the second week. He received 20,000 units of antitoxin intravenously.

CASE 27.—A boy, aged two years, was admitted on the sixth day of the disease with membrane on both tonsils, soft palate, and pharynx in the last stage of asphyxia. Tracheotomy was done at once and a large piece of membrane was coughed up through the wound. Complete respiratory relief followed but the child died from heart failure nine hours later. He had 40,000 units of serum A intravenously by incision.

CASE 189.—A girl, aged eight years, was admitted on the fourth day of the disease with some membrane on the tonsils and urgent laryngeal symptoms. Intubation was first tried but it did not relieve the condition and tracheotomy was performed with complete relief. The tube was removed on the fourth day. 10,000 units of antitoxin serum A were given by direct puncture.

D. Hæmorrhagic cases of a grave type.—Most of these were brought in late in the attack and they all very soon on the cold-blooded science of the pathological laboratory, the results obtained by Chalmers Watson in his investigations into the effect of a meat diet on rats, may carry more weight. It is only in accord with clinical evidence to be told that rats so fed exhibit marked predisposition to disease and early decay, and that even if the health is not seriously affected for the worse such degenerative changes as a harshness of the skin are in evidence; it is not surprising to hear of a tendency to sterility and diminished powers of lactation. With these facts in our minds it seems somewhat anomalous that many medical men should still be impressing on their patients the necessity for a little meat, at any rate once a day. As a matter of fact, the evidence, so far from being insufficient, is overwhelming in the direction of proving that a much more satisfactory state of being results from the new system. There are, however, many fallacies, and these must be studiously avoided if advantage is to be gained. Tea and coffee are a serious stumbling block with many. The necessity for eating slowly has already been emphasised, as also the desirability of the meals being few. Two meals a day is the ideal arrangement, while those who take more than three have only themselves to blame if their health is not all they desire. For the benefit of those who wish to make a gradual change and also of those, who without adopting the system in its entirety, yet wish to derive some benefit from a knowledge of the purin bodies, the following table based on Dr. Walker Hall's work will be useful:—

Purin Percentage Table.

Meat.

	Purins as grains per lb.		Purins as grains per lb.
Sweetbread	70·43	Loin of pork	8·48
Liver	19·26	Veal	8·13
Beef-steak	14·45	Ham	8·03
Sirloin of beef	9·13	Mutton	6·75
Chicken	9·06		
Fish.			
Salmon	8·15	Plaice	5·56
Halibut	7·14	Cod	4·07
Other Foods.			
Beans	4·16	Asparagus	1·5
Lentils	4·16	Onions	0·06
Oatmeal	3·45		

Beverages.

	Grains per pint.		Grains per teacup.
Porter	1·35	Coffee	1·70
Ale	1·27	Ceylon tea	1·21
Lager beer	1·09	Indian tea	1·05
		China tea	0·75

The obvious deduction from a study of these is that those who do not want to rank as extremists will do well to eschew the glandular organs, such as sweetbreads and liver, to pin their faith to mutton and one or two kinds of fish, to give up coffee, and drink weak China tea. Those who wish to go further should reflect first that man is neither carnivorous nor herbivorous. For long scientists have obscured the view by useless arguments as to whether or not a man was meant to live like a cow. There are other species than the flesh- and grass-eating animals; all students of comparative anatomy know now that the teeth of human beings are identical with those of the frugivorous apes who live on fruits and nuts. Not only so, but the proportion of bowel length to body length in man corresponds exactly with that in the same species, in marked contrast to what obtains in all carnivorous animals where the bowel is proportionally short. The extraordinary proneness of animal food to decay indicates the wisdom of a short alimentary tube, with correspondingly rapid excretion, for species who so subsist, and justifies the theory that excessive meat-eating at the present day may largely account for the prevalence of constipation, appendicitis, and other abdominal troubles.

A study of anatomy therefore suggests a fruit diet as the most suitable; further confirmation is afforded by the obvious predilection of nearly all children for such food. The best fruits for food are apples, bananas, grapes, nuts, dates, raisins, and figs. Nuts are especially valuable owing to the large amount of fat they contain; the old-fashioned idea that they are indigestible is due partly to the error in taking them at the end of an already more than ample meat meal and partly to insufficient mastication. Chestnuts are the easiest to digest and make an excellent food. Many other fruits may be taken, always remembering that stone fruits sometimes disagree and that acid fruits should be taken in moderation. Strawberries contain a considerable amount of purins and should be avoided by all with a gouty or rheumatic tendency. Among fruits we include those of the cereals, such as wheat and rice. White bread is free from purin but brown contains a varying amount derived from the husk. The most wholesome form of bread is unleavened; till recently this could not be bought, but is now supplied by the Wallace Bakery in London and by Winter in Birmingham among others.

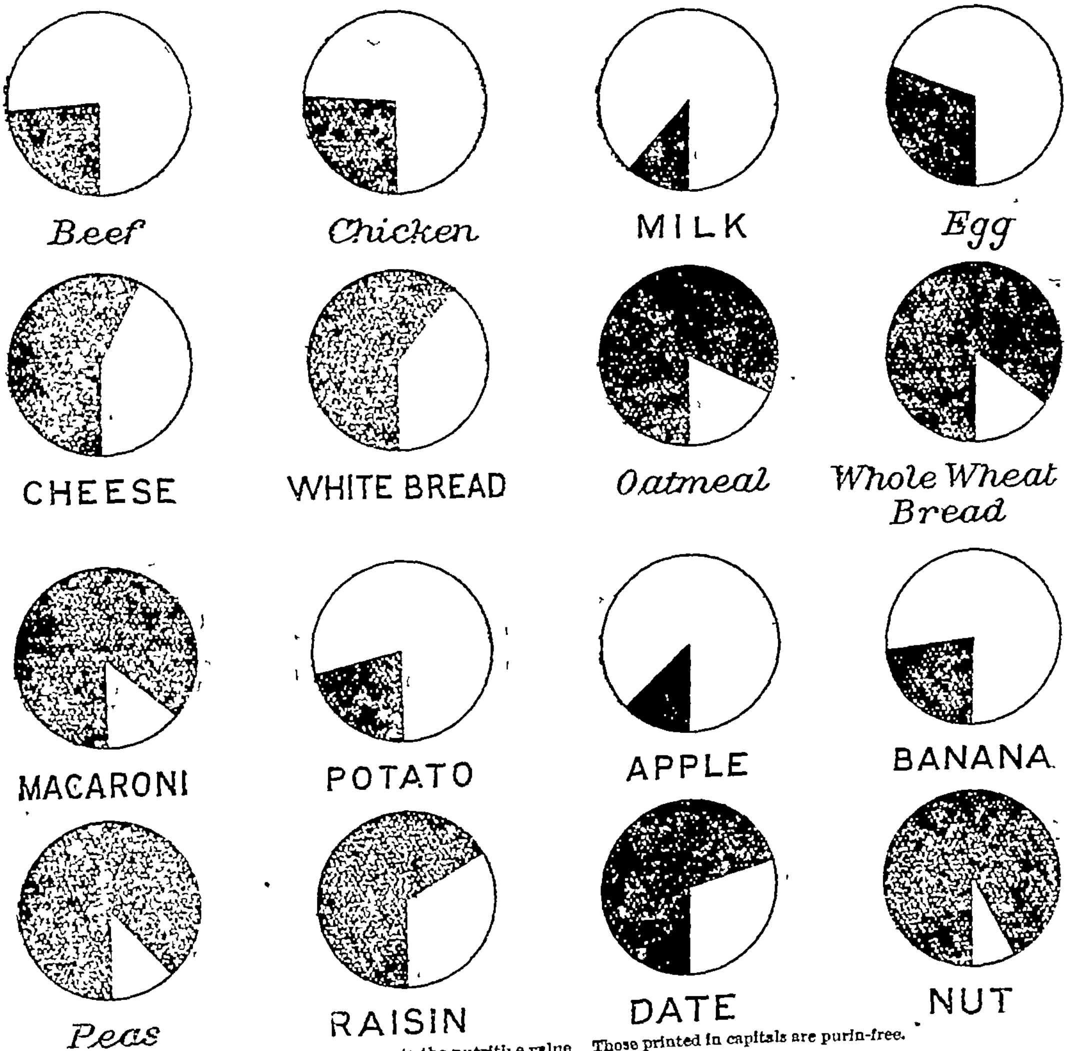
From fruits we pass to vegetables, which are less useful articles of diet. The old-fashioned idea that vegetarianism means living on cabbage and potatoes is gradually being exploded. Many vegetables contain but little nourishment and others, such as peas, beans, spinach, asparagus, and onions, contain noticeable amounts of uric acid. It must be understood, however, that the purins derived from the vegetable kingdom act less injuriously than those from an animal source; the latter are always combined with ptomaines, for recent experiments have proved that meat, even when freshly killed and immediately placed upon ice, always contains such products of decomposition. This explains the great benefit experienced by those who give up meat altogether. If people only realised that beef-tea and meat extracts are little else but decoctions of decomposed blood and waste products of animal life they would evince less avidity in disposing of them. Vegetables are most valuable to those who take much meat as they supply alkaline salts to antagonise the excess of acid. Still they are far from useless in any case Potatoes are among the best in ordinary circumstances, though not absolutely free from purins. As a general rule it may be said that the best fruits and vegetables are those which grow in a state of nature, those indigenous to our own country being the most suitable for us. The more cultivation and manure required the less desirable does a fruit become A mistake often made with vegetables, and especially with salads, is to douse them with vinegar, a prolific cause of dyspepsia. Vinegar should never be taken by those who aim at robust health. As an alternative an excellent salad dressing is made by a little pure olive oil with a squeeze of lemon juice.

For those who are not satisfied with fruit, another article of diet free from purins is cheese. Its nutritive value is high, as well as its stimulating properties, so that it forms a useful stepping stone for those who would pass by easy stages from a meat to a fruitarian diet. Care must always be taken not to indulge to excess in such a concentrated food. The value of milk and uncooked white of egg has already been dwelt on; yelk of egg is probably not free from purin and is not easy of digestion. Cream is purin-free but too rich for frequent use. Food is always best in its natural state and not in a concentrated form; there is, however, no objection to butter in moderation. Honey contains a considerable amount of nourishment; it has the unique distinction among food-stuffs of subserving, as far as we know, no other purpose. Oatmeal and lentils contain more than a trace of purin, and must therefore be taken in moderation; it would be a pity, however, altogether to exclude two such inexpensive, palatable, and sustaining articles of diet. A word of caution is necessary with regard to mushrooms: these are not only charged with the offending ingredients but are in addition difficult to digest.

So far from the new diet lacking variety, a glance at the menu of an up-to-date fruitarian restaurant or the price-lists of the so called food specialists indicates endless possibilities. A study of the subject of food values and the harmful effects of ptomaines will best explain the splendid appearance and physique of those brought up on this system in marked contrast to the anæmia and malnutrition so common among meat-eaters.

It only remains to say that if nourishing foods are made use of there is often no objection to a fairly rapid change; usually, however, and always with elderly people, graduated stages are better; these may be arranged either by altering one meal at a time or by eliminating the injurious items in instalments. Testing with the purinometer, I have found that with many patients who will not submit to the full *régime*, the exclusion of tea effects more than abstention from meat. Further experience has but served to confirm the value of this instrument both in estimating the necessity for change and in calculating the rate of progress. It would be wise to introduce some such test into an examination for life insurance, and to accord those who come out well their balance-sheets would be more satisfactory and their needs for extension disappear. I must confess a complete want of sympathy with the common ideal of devoting all one's efforts and care to the present suffering, regardless of the cause. Surely it is wiser, more humane, more patriotic to focus attention on the *fons et origo mali* and to give kindly advice as to a healthier mode of life. Patients of all classes are usually deeply grateful for such instruction. The fact that it is an impossible task for the physician who deals with large groups of out-patients at once condemns the practice in vogue at our most important hospitals; the present system but fosters the delusion that all one can expect and all one will get from a medical man are a few kind words and a bottle of medicine.

NUTRITIVE VALUES.



The dark portion represents the nutritive value. Those printed in capitals are purin-free.

For chronic illness and ordinary life the simple diet recommended for acute disease requires considerable extension on similar lines. Before giving precise details some general considerations may not be out of place. It is necessary first to meet the objection that on the new system it is difficult, if not impossible, to take enough nourishment for robust health and active work. This implies ignorance of the researches of Chittenden and others into the amount of food necessary, and of food values. Chittenden has proved that the majority of people enjoy better health and can do more work after reducing the amount of their food by a third or a half. Just as meat possesses less nutritive value than is popularly supposed, so many articles in a fruitarian dietary contain infinitely more. The diagrams appended illustrate this in the simplest way.

Of course, some of these foods, such as oatmeal and macaroni, require such alteration before coming to table as greatly to diminish the proportion of nourishment. A glance, however, at the figures for bread, dates, and nuts at once brings home the possibilities of the new system. As a matter of fact, less food is required when fruit is the basis, because such a diet is better digested and absorbed.

There are many individuals who say they believe that there is something in the new system but that at the present time we do not know enough to justify us in adopting it. I submit that the facts we already possess are fairly convincing to those who follow them out to a logical conclusion. At the present moment more than one-half the population of the world, including those living in all kinds of climates, and including the races with the finest physique, do not eat meat. Those men who are afraid of sacrificing their manhood by a departure from the beef and beer system may take comfort in the fact that the Romans at the time they conquered the world were vegetarians, as were also the majority of the Japanese at the period of their grandest achievements. Japan has a climate similar to our own except for greater extremes both of heat and cold. In these circumstances it is matter for little surprise that men in our own country who have adopted the new system find they enjoy infinitely better health and can accomplish much more, alike in their ordinary work and in trials of strength and endurance. With those critics who deem these considerations no argument, but stake all bending of the spinal column—as, for instance, in a fall from a height—or occurs with severe crushing of the whole thorax—as when the patient is run over—it is, according to Holmes's "System of Surgery," most frequently caused by a fall on to the top of the head driving the chin forcibly against the sternum; and I believe that this did happen in the case under consideration, for according to the patient's own account he, as it were, dived from the cart on to the ground; and examination showed a bruise and cut on the back of the head just above the occiput. The junction between the first and second portions of the sternum is generally at the level of the second costal cartilage, so that this cartilage articulates with both the gladiolus and manubrium. But in the case just described the separation was at the level of the second interspace, so that the second pair of costal cartilages were completely attached to the top fragment and the third pair to the lower fragment. Obviously the separation did not occur at the line of union of the first and second pieces of the sternum unless this was unusually low. Professor von Reidinger and Dr. H. Kümmell, in von Bergmann's "System of Surgery," state that even when there is a synchondrosis the separation does not occur through the line of union, but the whole synchondrosis remains attached either to the manubrium or to the gladiolus, so that the injury is a true fracture and not a dislocation. This case supports their view.

Lastingham, Yorks.

Reviews and Notices of Books.

The Medical Diseases of Infancy and Childhood. (Lippincott's New Medical Series.) By ALFRED CLEVELAND COTTON, A.M., M.D. London and Philadelphia: J. B. Lippincott Company. 1906. Pp. 670. Price 15*s*.

IN his work on the diseases of childhood and infancy Dr. Cotton has preserved a very happy equilibrium between the claims of nursery hygiene with its corollary the prophylaxis of disease and those of the treatment and description of morbid symptoms. There can be little doubt that the future of pædiatric practice lies rather in the direction of prevention than in that of cure and if Dr. Cotton has not exactly anticipated the inevitable trend in this direction to the exclusion of some of the older branches of medicine he shows himself at least well abreast of modern developments which are rapidly conducing to this end.

The first six chapters will be found to contain a very full account of the anatomy, physiology, and hygiene of the developing child—subjects which form a substantial basis for the proper understanding of preventive treatment. The completeness and accuracy of these chapters are indisputable and no fault can *suggest itself* to the most hypercritical reader unless, possibly, it be that the latter may be left with a sort of uncomfortable after-taste that the author regards the development of organs, both in their anatomical and functional relationships, from a somewhat teleological standpoint; that is to say, if we read these chapters aright, he leaves us rather to conclude that organs grow and develop according to some pre-determined design rather than that their efficiency and evolution depend on adaptation to the conditions of the environment—in other words, to the sort of use or education to which they are exposed during infancy and the early days of childhood. This fault, if fault it be, is particularly noticeable in the author's description of the growth of the stomach, the intestines, the heart, and the lungs, organs which are peculiarly dependent for their functional and morphological exfoliation on the sort of work which they are called upon to perform. These organs do not develop, even in relatively normal individuals, in obedience to teleological design or to text-book scales or tables, although doubtless their ultimate potentialities for work and their limits of efficiency do depend on factors which are independent of the environment.

The next few chapters, six in number to be precise, are devoted to the subject of infant feeding and these chapters give a very full account, and at the same time a very level-headed account, of the most recent development in the so-called American or percentage methods of feeding. Speaking of the recent and rapid advance in our knowledge and understanding of the art of infant feeding, the author maintains that from no quarter of the world has there been drawn more valuable practical knowledge than from that brilliant coterie of Americans, which includes the names of Leeds, Chittenden, Babcock, Harrington, Leffmann and Beam, Jacobi, Rotch, Holt, Starr, Meigs, Chapin, Van Slyke, Russell, Hart, Richmond, and the Adriences. The work of these men is most ably summarised and, indeed, on occasion criticised in these six chapters, and after weighing the advantages and disadvantages of the respective methods which are advocated by these authors the writer concludes that whatever method is adopted there is one essential that must never be lost sight of, and this is that to secure approximate accuracy—itself a most important factor—a predetermination of the gross constituents of the milk itself must be secured. For the home modification of milk, the method which is most generally applicable, the author insists that the mother or the nurse must be instructed in regard to all details and supplied with the necessary utensils; the latter include a good ice-box, two syphons, a steriliser or pasteuriser, a thermometer, a dozen graduated feeding-tubes, bottle brushes, absorbent cotton, straining gauze, non-absorbent cotton for stoppers, a mixing pitcher, an eight-ounce graduated glass funnel, a tall cup for warming the bottle, six black rubber nipples, bicarbonate of sodium, and boric acid—a list of desiderata which would probably inspire considerable awe in the minds of the majority of English mothers, but which, none the less, are absolutely essential for the proper carrying out of the best method of artificial feeding. In contradistinction to many American authors on infant feeding Dr. Cotton admits the merits of dextrinised gruels as adjuncts to an otherwise exclusive diet of modified milk.

Considerable attention is given in these pages to the evolution of gastric digestion in the developing infant. Our knowledge on this subject, as is explained on page 74, has been very considerably extended by the studies of Van Slyke and Hart on the production of cottage and Cheddar cheeses and on the chemical behaviour of caseins in the presence of acids, rennet, and pepsin. The author borrows very largely from an article by Dr. T. S. Southworth which appeared in the *Medical Record* of March 4th, 1905, to show how a knowledge of the chemical processes, which can be repeated in the test-tube, may explain the gradual development of gastric digestion in the infant. "It is," to quote the article referred to, "one of the most remarkable things in nature that milk, which itself maintains practically the same composition throughout lactation, is changed by the action upon it of the developing gastric secretion into forms and compounds which require at first moderate and later more extended gastric digestion, by which means the stomach is progressively called upon to perform more and more work until it is sufficiently developed to begin its subsistence upon the types of food consumed by the adult of its species." This principle, which is so interestingly displayed by the natural process of feeding, is the type to which Dr. Cotton very closely adheres in the artificial methods of feeding which he recommends. Indeed, as he maintains, it is by the study of the digestive processes at different periods of development that the problem of physiological feeding must be solved, and it is clearly to Dr. H. D. Chapin, the pioneer of this principle in feeding, that the author owes many of his most valuable suggestions. The later chapters of this work, which are concerned chiefly with advantages similar to those often accorded abstainers from alcohol. Occasional catastrophes not indicated by the usual tests might then be foreseen; healthy people with healthy habits do not die suddenly from exposure to cold or a little extra pressure of business.

Birmingham.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

ANOTHER PRESUMED CASE OF ACUTE YELLOW ATROPHY OF THE LIVER.

By JAMES J. ANNING, L.S.A.,
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IN view of the rarity of this disease I report the following case which has recently been under my care.

The patient, a primipara, aged 23 years, was delivered by me on the evening of August 5th this year of a full-term hydrocephalic female child. The health during pregnancy up to labour had been quite normal. There was no albuminuria. Labour being difficult and prolonged, instrumental assistance was used and the patient was kept under moderately deep chloroform anæsthesia for the space of about two hours. The perineum was partially ruptured and was repaired forthwith with silkworm-gut sutures. At the termination of delivery the pulse was noted to be feeble and rapid. The uterus contracted well and there was no undue hæmorrhage. On the following morning I found the patient to be suffering from persistent vomiting, typically "coffee-ground" in character. The pulse-rate was 108 and the temperature was 98·6° F. There was no abdominal pain or distension. The uterus was well contracted and the lochia were normal. During the day very little food or water was retained. By the evening the pulse-rate had risen to 120 with a normal temperature. A boric vaginal douche was given. On August 7th the vomiting still continued. Sanatogen in a small quantity of water was given at frequent intervals and at times was retained. During the day there was slight pyrexia, the temperature being 99° in the morning and 99·2° in the evening. The pulse-rate was still rapid, getting up to 130 by night. The lochia remained sweet and the perineal tear appeared to be healthy. A boric vaginal douche was given once. No sleep having been obtained since the delivery a third of a grain of morphine with atropine was injected hypodermically at 10 P.M. On the 8th the condition of affairs remained much as on the previous day. The body temperature registered 99·6° at mid-day but by the evening it had fallen to normal. The bowels, which had not acted since the confinement, were slightly moved after a simple enema. The pulse-rate was about 140 all the day. On the 9th the patient when seen at 10 A.M. appeared to be markedly jaundiced; she was restless and semi-conscious. The vomiting, which still continued, was not quite so frequent though it remained "coffee ground" in character. On being informed by the nurse that much difficulty had been experienced during the night in keeping the patient's hands away from the vagina an examination of the perineum was made, showing that two or three of the sutures had been forcibly torn through the tissues The remaining stitches were removed and the parts were cleansed with a boric douche. The liver dulness on percussion appeared to be normal. A catheter specimen of the urine was obtained and on examination it was found to be albuminous and to contain leucin and tyrosin, there was no sugar present; it was deeply bile-stained. Constipation being still persistent one grain of subchloride of mercury was ordered to be given every four hours during the following day. The pulse-rate remained at from 120 to 140, whilst the temperature on this date was normal. On the 10th the semi-conscious condition noted on the previous day had given place to marked delirium. The bowels had acted well and vomiting had been much less frequent. During the day Dr. W. H. Maxwell Telling kindly saw the patient with me and confirmed my view of the case probably being an example of acute yellow atrophy. He also examined some of the urine of this date under the microscope and found leucin and tyrosin present. The liver dulness was found to extend in the mammary line from the sixth interspace to about half an inch above the costal margin. The pulse-rate remained high. Owing to the delirium very little food was taken during the day; rectal saline injections were given a trial but were not retained. Urine was voided unconsciously in the bed. On the 11th the general condition of the patient appeared to be much better; there was a cessation of the delirium and of the vomiting. Food—e.g., plasmon and sanatogen—was taken well, also plenty of water. The bowels acted freely. The temperature rose to 100°, probably due to a sapræmia from the perineal wound which was not looking very healthy. The liver dulness extended from the sixth interspace to fully one and a half inches above the costal margin. On the 12th the patient had almost regained her usual mental faculties though the liver dulness was still further diminished—not extending beyond two inches above the costal margin in the mammary line. The jaundice was less apparent though the urine was still markedly bilious. During the day an erythema, very similar to morbilli, was observed spreading from the buttocks over the trunk, the face, and the limbs. Whether this was due to the sapræmia, which judging by the pyrexia (101°) and the clean healthy appearance of the parts was not very marked, or to the liver atrophy I am unable to determine. On the 14th the erythema, which on the 13th was universal, was fading. Only about one and a half inches of deep liver dulness was to be detected. The pulse-rate was 100 and the temperature was 99·6°. Examination of the urine on this date showed leucin and tyrosin to be still present, as well as albumin, but no sugar. From August 15th the liver dulness rapidly increased so that by the 20th it was almost normal and the general recovery of the patient was in every way satisfactory, constipation, which was very obstinate, only being complained of. The jaundice passed off slowly and even a month later the conjunctivæ were distinctly icteric. At no time during the illness could the spleen be felt.

Rolleston, in "Diseases of the Liver," states that "chloroform narcosis has in most exceptional instances been followed by acute yellow atrophy." Was this case an example?

Leeds.

A CASE OF FRACTURE OF THE STERNUM.

BY J. FINLAY ALEXANDER, M.A., M.D. CANTAB.

A FARM labourer, aged 60 years, fell off a cartload of sheaves on to the ground. The height from which he fell was probably about eight feet. He struck his head and was "stunned" for a few minutes, when he recovered consciousness he drove in the cart to the farm, stabled the horse, and then walked home a distance of one and a quarter miles. On arriving there he at once went to bed and remained lying down for three days because his chest "felt stiff when he moved." On the evening of the third day he got up, dressed himself, and walked about half a mile to see me. He complained of some "stiffness of the chest" and assured me that there was no swelling and "nothing to be seen." However, on making him take off his shirt there was to be seen an enormous bruise which covered nearly the whole of the front of the thorax and a ridge crossing the chest transversely at the level of the second intercostal space. There had obviously been a transverse fracture of the sternum just above the level of the attachment of the third pair of costal cartilages, and the ridge was caused by the slipping upwards and forwards of the lower fragment of the sternum, with the attached third pair of ribs, on to the upper fragment. The third rib on the right side was also fractured close to its junction with the costal cartilage. On making the patient lie down on a flat couch, without a pillow under his head, the displacement was easily reduced but returned at once when he got up He was sent home and told to lie on a hard mattress flat on his back, and while in this position, with the displacement reduced, I firmly strapped the chest. This at once relieved all pain and within three weeks the fracture had united firmly in a good position without the formation of much callus.

The case is interesting, for, apart from the actual injury, there were no symptoms; there was never any cough or hæmoptysis, and when the man first came to see me he could walk quickly without any shortness of breath. Also, the fracture is very rare. Except when it accompanies acute

a description of morbid conditions, appear to us to be extremely accurate and well up to date.

An Essay on the General Principles of the Treatment of Spinal Curvatures. By H. R. HEATHER BIGG, F.R.C.S. Edin. Illustrated by the author's photographs and sketches. London: J. & A. Churchill. 1905. Pp. 240. Price 5*s.* net.

IT is a somewhat difficult task to give a satisfactory notice of this book. It is almost equally easy to undervalue and to overvalue it. On the one hand we must not fail to recognise, and to record our recognition of, the care and fulness with which the author has treated his subject; he has put forward clearly the arguments in favour of what may be called, without any wish to belittle it, the "mechanical" treatment of curvatures of the spine, and this has been done as well as possibly it could have been done by anyone. On the other hand it appears to us that he has failed to appreciate several factors in the etiology of spinal curvature which should exert a great influence on the treatment. We may say in the first place that throughout the work it has not been kept in view sufficiently that spinal caries and true spinal curvature have absolutely nothing to do with one another. (The author has, indeed, published a separate treatise on "Caries of the Spine," and therefore it was unnecessary to introduce the subject at all here.) In the second place the author has nowhere fully considered the etiology of curvature of the spine. It may be said that the book is concerned with the treatment, but the best treatment must take into account the causation of the deformity. The chief factor in the production of primary curvature of the spine is weakness of the muscles and ligaments the function of which is to support the spinal column. Therefore the most reasonable plan of treatment must take into account this weakness and must see that the weakened structures are strengthened. The chief agent in this, apart from the observance of ordinary hygienic rules of food and sleep, must be judicious exercise, and therefore the use of gymnastic exercises in the treatment of spinal curvature cannot be ignored if the best results are to be obtained. We would not have it thought that we do not value what the author calls "active appliances"; they have a very definite value, but the recognition of their usefulness should not render us blind to the importance of hygienic methods. As we have already said, Mr. Heather Bigg states well the advantages of the treatment by "appliances," and the book will be of value as containing the best exposition of this method of treatment. It is a pity that there is no index; the value of a book is always distinctly impaired by the absence of an alphabetical reference to the contents.

International Clinics. Edited by A. O. J. KELLY, A.M., M.D., Philadelphia. Published quarterly. Vol. IV., Fifteenth Series, and Vol. I., Sixteenth Series. London and Philadelphia: J. B. Lippincott Company. 1906. Pp. 309 and 312 respectively. Sold in complete sets of four volumes: price £1 15*s.* net.

THESE two volumes of this well-known quarterly fully maintain the high standard set by their predecessors. The first of them has for its opening chapters five papers dealing with questions of treatment, but the subjects selected have little in common, since they embrace the treatment of psoriasis, the use of saline solution, the treatment of some common gastric disorders, the internal use of carbolic acid, and the value of psycho-therapy in certain nervous disorders. Then follows a section on Medicine, with six lectures dealing with empyema, "post-tussive suction," abdominal palpation, cirrhosis of the liver, affections of the thyroid gland, and Malta fever. The last-mentioned paper is by Dr. Charles F. Craig, an assistant surgeon in the United States army, who appears to have had exceptional opportunities of studying this disease. After giving brief notes of ten cases he furnishes an analysis of symptoms and concludes that the blood count is of the greatest service in differentiating this disease from typhoid fever on account of the constant occurrence of a leucocytosis in Malta fever, a symptom which is absent in typhoid fever unless a suppurative complication has occurred. He suggests the probability of a wide distribution of Malta fever even in temperate climates, and maintains that there are no pathognomonic symptoms of Malta fever, that all the symptoms presented may occur in many other infections, and that the cases are very few in which a diagnosis can be made without the aid of the serum reaction. The surgical section and that devoted to obstetrics and gynæcology include several lectures of considerable interest, of which may be mentioned one on the Diagnosis of Surgical Diseases of the Kidney, by Dr. J. Garland Sherrill, and those on Ectopic and Extra-uterine Pregnancy, by Dr. Thomas A. Ashby and by Dr. Franklin S. Newell. The pathological section only contains two lectures but they are both worthy of careful study; the first, by Dr. Aldred Scott Warthin, consists of an Experimental Study of the Effect of Roentgen Rays upon the Blood-forming Organs, with special reference to the Treatment of Leukæmia, while the second, by Dr. Charles E. Simon, is a contribution to the Study of Eosinophilia. This volume is profusely illustrated with plates, which are generally clear and helpful.

The second of the two volumes commences with a lecture by Dr. James Tyson on the Medical Treatment of Exophthalmic Goitre. Concerning this distressing affection Dr. Tyson remarks that there is reason to hope for the discovery of an antitoxin that will counteract the cytotoxin which in all likelihood produces the symptoms. In the meanwhile he acknowledges the absence of any specific remedy and calls attention to such measures of treatment as have been followed by recovery or improvement. It is said that 40 per cent. of the patients recover and that improvement is still more frequent. Mild cases may be restored to health merely by rest and the use of nourishing food. Should rest exert no benefit then the effect of drugs must be tried, bromides and digitalis in moderate doses being generally administered at first; veratrum viride may be substituted for the digitalis and belladonna is also spoken favourably of. With respect to the administration of extracts from the glands of the body, those of the suprarenal and thymus glands have been found beneficial. A remarkable case in which blennorrhaphy was employed to retain the eye in its place is narrated. Dr. A. P. Francine next writes on Gastroptosis, an article full of thoughtful suggestions, and is followed by Dr. J. French with a contribution on the Treatment of Cough. We are glad to see that he mentions the administration of ammonium chloride. This drug produces an immediate effect in cases in which no especial lesion could be discovered beyond a certain amount of emphysema and where the distressing cough had lasted for over four years. Dr. E. Barié discourses on the Dechloridation Treatment in Diseases of the Heart. Next follow Dr. T. Wainwright's remarks on the Indications for, and the Method of, Performing Venesection, which conclude the section on treatment. A very interesting lecture on the Diagnosis and Treatment of Membranous Tonsillitis, a class of cases that has been the subject of much controversy in their relation to diphtheria, follows from the pen of Dr. Lewis S. Somers. 12 different affections are minutely described and well illustrated and the treatment discussed. Dr. Howard Fussell writes on the Position and Size of the Heart in Advanced Mitral Stenosis, and illustrates his remarks by some beautiful plates. The points he wishes to emphasise are, that in this affection the right heart is so massive that it completely overshadows the left heart,

THE LANCET.

LONDON: SATURDAY, OCTOBER 6, 1906.

The Introductory Addresses to Medical Students.

AT the beginning of the week the English medical schools were most of them opened, some formally with an address to the students, others without any such ceremony. The occasion was also marked by a large number of dinners of past and present students, the majority of the London hospitals keeping to this old-fashioned and estimable custom. We publish this week some of the addresses in full and some in abstract, and we think that they quite justify by their matter the continuance of a pleasant inaugural ceremony. It is a little the mode to laugh at the introductory address. The caustic man is wont to ask whether any good purpose is served by a gentleman, a member of the staff of the medical school, or a celebrity in the scientific or literary worlds, assuring the new recruits to medicine that they have joined a noble profession, that to succeed in it they must be observant, industrious, methodical, and well-mannered, and that they will in the future learn to prefer the esteem and affection of their patients to payment in any more easily invested shape. The caustic man is only partly right. There is a form of introductory address that most of us have at one time or another listened to, or read, that can be summed up in the above unkind manner; but even so the impression that it could profit no one to hear it is wrong. Such an address is a piece of ritual and has the virtues and drawbacks of ritual. It conforms to a set type, and if in some minds this similarity to an approved pattern challenges dissent to many other minds it comes as a renewal of accepted beliefs—a confirmation of the pleasant and honourable creed that the medical life, well lived, is the highest ideal that the citizen can attain to, the nearest effort to carry out the divine instruction to love neighbour as self. A medical man need never be ashamed of feeling his emotions stirred by the old-fashioned introductory address, and when it is delivered the hearts of the new students rejoice in it. None the less the old-fashioned address would seem to have had its day and we may expect for the future to find the orators on these occasions appealing more to the head than to the heart of their audience.

This is what has been done by Dr. DONALD MACALISTER, President of the General Medical Council, at the opening address to the medical students of the Victoria University of Manchester and by Dr. N. H. ALCOCK in addressing the medical students of St. Mary's Hospital, at which institution he is lecturer on physiology and Vice-Dean of the Medical School. Each discusses professional matters of the highest importance from the point of view of a man of affairs and we recommend all our readers to study the result. We know very well that the majority of the medical profession does not properly appreciate what are and what are not the powers and possibilities of the General Medical Council. We are constantly asked to find fault with that Council because it has not done things which the law gives it no power to do. On the other hand, we are not infrequently asked to comment upon the cruelty of the Council when it performs disciplinary duties which it specially exists by Act of Parliament to perform, and neglect of which would constitute a serious default. Dr. MACALISTER points out that the Council is frequently alluded to as "the Parliament of the Medical Profession," although it can legislate for nobody; or as "the Doctors' Trade Union," although it levies no subscriptions and offers no pecuniary benefits. And we can corroborate his words, for one view or the other of the duties of the General Medical Council is taken by correspondents of THE LANCET every week. If it were laymen only who made this kind of error it would not be surprising but it is a little curious to find the medical profession as a whole so ill-informed as to the powers of the General Medical Council and of the scope of its work. Dr. MACALISTER'S excellent address leaves no excuse for any medical man in the future being ignorant as to what the Council can do and cannot do, and it is not easy to conceive a more sensible introduction to professional life for the new medical student than this clear exposition of the functions and limitations of the educational and disciplinary authority of the medical profession. Dr. MACALISTER rightly dwells upon the undoubted fact that the Council has to a great extent made its own law, for it has ascertained what powers it possesses in so able a manner that the inadequacy of the statutes which govern it is seen to be more apparent than real. The Council has, in fact, formulated fresh applications of the law suitable to the growing complexity of modern conditions both on the judicial side of its work and on the educational side, and this should be remembered when some inactivity, dictated perhaps by prudence and perhaps by legal disability, leads to the accusing of the Council of supineness. Throughout Dr. MACALISTER is careful to insist upon a point which we are ever begging our readers to remember—namely, that the General Medical Council was created for the good of the public and not for the protection of the medical profession. The Medical Act of 1858 created the Medical Register, an official list of medical men which can be consulted by the public for the purpose of ascertaining whether any particular medical man is or is not in possession of legal professional qualifications. The General Medical Council is the body of men entrusted under the Act with the double function of education and registration—that is, the Council has to keep a register of legally qualified medical men and to insure that only persons are admitted to the Register who have attained to a certain standard of medical knowledge. It is also the duty of the Council to see that the name of no person remains on the Register whose conduct in a professional respect unfits him to occupy the position of medical adviser to the public—that being a position of delicate trust. There is not a word in the Act about the prevention of quackery; the unqualified medical practitioners are only penalised by being prevented from pretending to have registrable qualifications when they have them not. That is the legal position of the General Medical Council and complaints that the Council does not suppress quackery or takes too severe a view of "covering" are idle.

But because the General Medical Council, working under the diplo bacillus, and conjunctivitis due to this cause is most common in March, August, and October. 5. Ring Scotoma, by W. Ilbert-Hancock, illustrated. The author divides the cases observed into those in which the diseased area of the fundus corresponds with the scotoma in the field, those in which there is no such correspondence, and, finally, those in which the fundus to ophthalmoscopic examination is perfectly normal. 6. Further Cases of Thrombosis of the Central Vein, by George Coats, curator of the museum of the Royal London Ophthalmic Hospital. This article contains the results of much microscopical research and many drawings are given of the appearances presented. 7. On Metastatic Infection of the Eye associated with (*a*) Cerebro-spinal Meningitis, and (*b*) Typhoid Fever, by M. S. Mayou, with two plates. 8. Retina in Glaucoma Cup, by Malcolm Langton Hepburn, F.R.C.S. Eng., with two plates. This number of the Reports contains the index to Vol. XVI.

JOURNALS AND MAGAZINES.

The Edinburgh Medical Journal.—The September number opens with a lecture by Dr. W. Ewart on Vascular Disease in which he endeavours to bring some sort of order into the rather chaotic field of vascular ailments. He calls for a clearer terminology, a separation between functional and organic disease, and a due attention to clinical as opposed to anatomical features. Dr. A. Primrose narrates a case of Blastomycosis of the Skin in a man, and Mr. Alexander Miles continues his paper on Perforated Gastric and Duodenal Ulcers. Professor Ralph Stockman points out the uselessness of salicylates in diseases of the joints other than those due to true acute rheumatism.

The Scottish Medical and Surgical Journal.—In the September number is an interesting address on Quackery by Professor T. Annandale, delivered to the Edinburgh graduates of 1906. Mr. F. M. Caird gives an account of 25 cases of operation on perforated gastric and duodenal ulcers, and Dr. G. Keppie Paterson records an instance of the former occurrence in a boy, aged 12 years, which is dealt with in another column (p. 947). Dr. P. G. Borrowman gives his personal experiences of Dunbar's Hay-fever Antitoxin, from which it would appear that a recent sample of this preparation was actually toxic in its effects; and Mr. R. A. Lundie defends inflation as treatment for intussusception in opposition to the condemnation meted out to this measure in the previous number of this magazine.

The Birmingham Medical Review.—Professor Robert Saundby's deliverances on the subject of Medical Ethics are always interesting and the fresh instalment in the August issue of this periodical is no exception to the rule. Mr. A. W. Nuthall writes of fractures of the upper limb and Mr. George Heaton gives practical advice as to the treatment of chronic cystitis.

The Medical Chronicle.—The two original articles in the September number are both of considerable interest Dr. C. C. Gruner deals with cryoscopy and electro conductivity as applied to medicine, noting the value of the former as a means of distinguishing disease of the kidney from that of the heart or bladder and as a medico legal test in cases of drowning, and the combined processes as specially useful in investigating cases in which the urine of the two kidneys can be separately examined. Dr. John Hay writes of heart block as an invariable accompaniment of Stokes-Adams disease, the cause being either a structural lesion in or near the "bundle of His," or nervous influences affecting its conductivity.

MEDICINE AND THE LAW.

The Giving of Information to the Coroner.

AT a recent inquest at Lambeth the vexed question was again brought forward of the attitude to be adopted towards the coroner by a medical man who has attended a deceased person but has refused to certify the cause of death. In the case in question the medical man refused all information to the coroner's officer and was not summoned by Mr. Troutbeck to give evidence at the inquest, the post-mortem examination for which was conducted by Dr. L. Freyberger. At the inquest the coroner told the jury that they must assume that the medical man who had seen the deceased before death did not feel justified in giving a certificate and that he could not as coroner call upon him to give information as he had no power to pay him for doing so. Mr. Troutbeck also intimated that it was in his opinion a desirable reform that the coroner should be enabled by law to ask for a report from the medical man and to allow a suitable fee in return. With his statement of the position none should find fault and it is an argument in favour of the course adopted in the instance under discussion that if medical practitioners give information gratis in the present state of the law the tendency will be to keep things as they are. In other words, the legislature will say, "Why pay medical men for doing that which they have been contented to do for nothing!" On the other hand, the refusal of all information before the inquest is open to objections and it is well that these should be understood and considered. The coroner has to decide whether a particular case is one which calls for an inquest. In order to do this he must seek for trustworthy information and it is clear that if a medical man has intervened at any point it is he who should most fittingly give it. It would neither be wise nor courteous in the coroner to pass him over. Again, in the conduct of an inquest, the coroner has to elicit the material facts from other witnesses as well as from the medical man and he can hardly do this properly if he has no previous information concerning them. Again, it is within his discretion to decide whether a post-mortem examination should be held or not, and, as is well known, Mr. Troutbeck holds views upon this subject which rightly do not commend themselves to the medical profession. How far this attitude of the coroner may have been responsible for difficulties which arise in his jurisdiction need not be discussed but, to speak generally, the refusal of a medical practitioner who has attended a case to give the coroner any information whatever with regard to it may lay him open to the suggestion that he keeps silence because he has something to conceal and may afford the coroner an opportunity to say that it is for this reason that he hands over the post-mortem examination to an independent practitioner. We do not, of course, suggest that Mr. Troutbeck would assign any such motive to his action unless it were the true one or that any desire to conceal had anything to do with the medical man's refusal to oblige him in the recent case, the point which we have indicated, however, is one which merits consideration and the inquest referred to supplies another. The evidence of Dr. Freyberger as reported in the *Daily Telegraph* was as follows: "Death was due to heart failure accelerated by alcoholic pneumonia. There would be no difficulty in diagnosing such a case." The refusal to give information seems to have laid the medical man open to having a statement of this character made in open court and invidious inferences drawn from it, without any kind of explanation or reply from him being before the coroner or the jury. It is hardly necessary to say, in conclusion, that if in any case it were to be found that the course of justice had been impeded owing to the refusal of the medical man to give information to the coroner the consequences might be of a more or less serious character according to circumstances.

GUY'S HOSPITAL MEDICAL SCHOOL.—The following entrance scholarships and certificates have been awarded:—Senior science scholarship for university students: £50, A. H. Crook, B.A.; certificate, C. C. Holman, B.A. Junior science scholarships: £150, F. Cook; £60, E. G. Schlesinger; certificate, G. T. Smith. Entrance scholarships in arts: £100, W. A. Young; £50, H Webb; and certificate, N. E. Farr. In the Dental School the entrance scholarship in dental mechanics has been awarded to Mr. E. A. Tomes.

THE LANCET.

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But because the General Medical Council, working under very limited powers, exercises its functions to the full under those powers there is no reason that a condition of perfection must be regarded as reached. The Act itself might be modified, added to, or superseded by a measure more in keeping with the present condition of things, the limitations might be removed from the powers already enjoyed. Any of these things might happen, but if medical men wish to assist in the cause of reform it is necessary that they should be unanimous in their demands for amendment and should also demand only what can be proved to be for the public good. In our mind the most pressing reform necessary is the rearrangement of the curriculum of the medical student. It is notorious that the average students, and many who are above the average of attainment, do not manage to secure a place upon the Medical Register until after six years' work, whereas the statutory length of the curriculum is five years. Despite this protracted course of study the education of the student in preliminary, in scientific, and in professional work alike is the subject of much adverse comment. Some find that he spends too long a time in acquiring familiarity with the preliminary subjects; others dwell on the rudimentary nature of the tests applied to his general education; others say that he learns no midwifery; and yet others that his ophthalmological training is neglected. The problem before the General Medical Council is, in brief, how to teach the student more while taking up less time in doing it, and Dr. ALCOCK'S address contains an interesting suggestion upon the subject. He shows that the modern scientific education of the student is not wasted, as some declare, but that in general practice and consulting practice alike the value of such preliminary training makes itself felt. It is urged on all hands, however, that the student is over-burdened and Dr. ALCOCK proposes to meet the situation by a revision of the syllabus more or less universally adopted by the various educational authorities, so that the course in biology, chemistry, and physics would be much shortened. His belief is that the student would master a sufficiency of these subjects and the elements of anatomy and physiology in his first two years and could then devote a third year to completing his knowledge of anatomy and physiology and to the advanced study of one of the ancillary scientific subjects. By early specialising in biology, chemistry, or physics, the student would acquire a familiarity with the methods of scientific research that would serve him infinitely well both in the two years' purely professional work still before him and in his after life as a practitioner. Dr. ALCOCK'S scheme is not as revolutionary as it sounds and we commend it to the attention of our educational authorities.

Enteric Fever in the Army.

THAT in time of war disease may kill many more men than do the bullets of the enemy has long been recognised by military historians, and the recent war in South Africa brought the truth home to the people of this country in the shape of a very bitter lesson. Few were the homes at that time which had not some relative, distant or close, some friend, intimate or casual, at the front, and the resulting study of the casualty lists showed many more sufferers from enteric fever than from wounds, or indeed from any other cause. The experiences of the Japanese army in the more recent and larger struggle in the far East showed that in certain circumstances much of the mortality from disease can be avoided and the obvious lesson from this fact is not very flattering to us as a nation. It is in war time that enteric fever reaches proportions sufficiently appalling to arrest the attention of the most indifferent but in time of peace, too, it is responsible for a considerable number of deaths even in this country, as the recent outbreak at Fleetwood among the officers of the 3rd Battalion of the Loyal North Lancashire Regiment has forcibly reminded us. In India, where sanitary conditions are necessarily less satisfactory, enteric fever ranks as one of the most fatal maladies among our troops, being responsible during the year 1905 for no less than 1146 admissions to hospital with 213 deaths, while up to the end of June in the present year there occurred 513 cases of the disease of which 126 proved fatal. The magnitude of this terrible evil has so impressed the Commander-in-Chief in India that he has appointed a special committee of experts to consider the best measures for stamping it out.

Lord KITCHENER in his preliminary address divided the subject for discussion into five heads—namely, (1) sanitation of cantonments and barracks; (2) isolation of infected patients; (3) detection of the origin of an outbreak or of single cases; (4) inoculation; and (5) examination of the blood.[1] The first three headings embrace prevention of conveyance of infection to the troops, the fourth deals with the strengthening of the resistance of those exposed to such infection, and the fifth enforces early recognition of cases. Apart from such accidental methods of infection as the consumption of infected shell-fish—a source of danger which has now and again accounted for serious outbreaks among the civilian population in this country but which is comparatively trivial among the troops—the principal modes of conveyance of the bacillus typhosus are by drinking-water, by food, by dust and flies, by infected fomites, and by direct contagion. Of these the first is practically speaking much the most important. In saying this we do not forget that the special committee appointed to inquire into the causes of the epidemic of typhoid fever which prevailed among the troops during the late Spanish-American war was of opinion that infected water was not on that occasion an important factor in the spread of the disease but that flies undoubtedly served as carriers of infection. They stated also that men transported infected material on their persons or in their clothing and thus disseminated the disease. But all the etiology of enteric fever, whether water-borne or not, is complicated by the undoubted influences of age, race (habits, customs, and food-supply), and climate. However, it is to infected water or to contaminated milk that epidemics of enteric fever (especially of a sudden and explosive nature) have most commonly been traced and in the South African war it was after the capture of the water works and the cutting off of the water-supply at Bloemfontein that the most extensive outbreak of enteric fever occurred, at a time when dependence had to be placed on shallow wells and similar doubtful sources. Hence it is to insuring a supply of pure water, and to preventing the troops from drinking from unauthorised sources, that our efforts must in any case be directed, an obvious procedure being the boiling of all drinking water. But practical difficulties of a serious nature arise in the case of troops on the march. Sterilisation of large quantities of water for stationary bodies of men may most easily be effected by filtration but this means is not always reliable, nor is it available for small bodies moving rapidly with a minimum of impedimenta. For such it would seem that boiling all water affords the readiest way of preventing infection. Dr. H. E. LEIGH CANNEY has made gallant attempts to show that the proceeding would be feasible, and his views have met with much support not always of the most intelligent kind. At the same time a good deal of acrid criticism has been passed upon the officers of the Army and Indian Medical Services, apparently under the absurd belief that those officers were unaware that boiling has a sterilising effect upon water. We wish that an official test could be made of Dr. LEIGH CANNEY'S scheme, with the understanding that success under the ordeal, already foreshadowed by XENOPHON, should lead to further trials upon an extensive scale. In this way a concurrence of opinion might be arrived at between practical experts who are now strangely divided, and the relative parts played in the spread of enteric fever by the infected soil of camps, contagion, and other causes than water might be discussed.

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[1] Vide THE LANCET, Sept. 8th, p. 671.

All the world knows that if once water-borne disease could be eliminated outbreaks of enteric fever would become less numerous, but the influences of age and environment would still remain as well as the other, if less important, methods of spread. These latter, so far as the army is concerned, come into play at later periods when cases of the disease have already occurred among the troops. Their importance is hard to estimate. Flies were much blamed in South Africa as carriers of disease but to act in this way they must have access to infective material—a condition which should be regarded as largely preventable. Apart from gross carelessness, such as occurred in the case of the infected blankets sent home from the war, infection by fomites should not be possible. The part played by direct contagion, to which much attention has recently been directed and importance attached, has not been at present definitely determined. It is not easy to understand how the bacillus can leave the body apart from the well-known channels provided by the various excreta, and very notably and persistently so by the urine, and careful disinfection should help to minimise this mode of conveyance. It would be well in default of certain knowledge to regard every case of enteric fever as potentially contagious and to isolate such patients from those suffering from other maladies, but it goes without saying that in times of war this cannot be done and even in times of peace it might very generally be impracticable. For the recognition of mild attacks of the disease the examination of the blood affords valuable assistance and it would be advisable to apply the serum test in all cases of fever of doubtful nature. Its limitations must, however, be clearly recognised, since not only does the reaction fail to appear in the first few days of the disease but it persists for a length of time, at present unknown, after the occurrence of an attack. Of the value of protective inoculation against enteric fever it is still too soon to speak with certainty. Clearly we must not expect too much from this measure in the case of a disease which may occur more than once in the same person—which may indeed recur after a comparatively short interval of time. Nevertheless the evidence points to the production by inoculation of a period at least of raised resistance to the infection, and it can scarcely be doubted that those who are going into parts of the world where enteric fever is rife would be wise to undergo inoculation, provided that a sufficiently long interval can elapse before they reach the seat of danger. This recommendation applies particularly to the young, for the recruit is sent to India at his most susceptible age and recent arrival in that country is a powerful predisposing factor.

The University of Aberdeen: its Quatercentenary.

FORETHOUGHT, experience, and *esprit de corps*, all coöperating in good time and with a practically unlimited "war chest," had their legitimate recompense in the splendid commemoration of her fourth centenary by the University of Aberdeen. Never, perhaps, in academic history has so large, so varied, and so complex a concourse of graduates, teachers, and professional men been brought together from greater distances to coalesce in completer harmony and to separate with a profounder sense of common interests worthily represented and of a laudable undertaking pleasingly fulfilled. On a programme which it required four days to work out was concentrated the preparation of quite as many years, and all went so smoothly from beginning to end that it was difficult for the participant to realise that he was not intervening at some spontaneous gathering which owed to happy circumstance the success which cannot be "furnished to order." One element, indeed, in northern climes particularly, is so seldom to be counted upon that, even with all the preparation above referred to, it could by simple abstention have spoiled the most attractive features of the programme—we mean sunshine. But not even of that was there any stint, insomuch that more than one delegate from Southern Europe was heard to remark that Italy herself could not have been more indulgent in the combination of bright blue skies and kindly caressing air. Dame Nature herself seemed to smile on the celebration and to coöperate with art and science and an organisation almost "military" to bring it to a happy issue. Such gatherings seem likely to become a standing feature in the academic life of the future and, if promoted and organised with the forethought, the liberality, and the success of this last one, to multiply advantages well worth the pains incurred to achieve them. Provincialism becomes less and less operative in science; even the *chauvinisme*, which is still a force in the political world, is progressively diminishing in the "ampler ether, the diviner air" of pure literature, fine art, and, above all, of nature study. Ignoble claims to priority in this or that discovery or invention—claims often pressed in interests remote from the common good and in a spirit fatal to healthy coöperation—are happily becoming rare in the scientific sphere, and this in proportion as the interdependence of the sciences themselves and the indebtedness of their votaries to each other are being properly recognised. An atmosphere of "fratellanza," as the Italians say, all-embracing in its incidence, tends to become the life breath of the seeker after truth, inducing a catholic spirit destined to banish sectarianism from the higher studies and to relegate it to the votaries of "tradition," more or less "time-hallowed." Congresses, academic jubilees, and university centenaries, all working to this end, are prolific in results from which humanity as a whole must be the gainer.

In these days when each great Power has its "army question" and its "navy question" absorbing so much of its time, its thought, and its revenue, it is consolatory to think that, *pari passu* with what Lord BEACONSFIELD called "bloated armaments" by sea and land, another warfare, peaceful in its methods, salutary in its spirit, and beneficent in its results, is being steadily and successfully waged against the forces of evil, physical as well as moral. In this service the various contingents, impersonated in their respective chiefs, were in full evidence during the commemoration just celebrated at the great University by the North Sea and, as they passed in seemingly "endless file" to receive the distinctions which they had earned, the thought could scarcely be repressed that the triumph of their campaign meant the ultimate abolition of that other warfare still impairing the moral and material energies of the great Powers. Yes, with the prevalence of the spirit in which they live and work must ere long be facilitated those "conciliatory overtures" inspired by mutual good-will which are the first step to the adjustment of international differences, while the end which "courts of arbitration" are convened to attain cannot but be the more speedily and fully realised if these are concurrently aided by the spirit of fraternity and coöperation so conspicuous at the august assembly which has just risen at Aberdeen.

Annotations.

"Ne quid nimis."

NON-MEDICAL CORONERS.

WE have for more than 60 years strongly insisted on the urgent need that exists for the appointment of medical men as coroners The amount of legal knowledge required by a coroner is very small and may be readily acquired in a very short time, but the medical knowledge needed is very great if the coroner is to be competent to understand the medical evidence given and to interpret it to the jury so as to enable them to form an opinion. When this medical knowledge is absent the coroner is very liable to misunderstand the evidence and to express opinions not justified by the facts. An inquest was held on Sept. 12th in which the lack of knowledge on the part of the coroner led him to censure the medical man who had attended, though there was not the slightest doubt that the course advised by the medical man was the best that could be devised. A man named David Joseph was injured by a fall of rock which caused a fracture of the spine in the dorso-lumbar region. This occurred on a Saturday and the patient was seen by Mr. F. G Aldrich, of Cwmavon, who considered on the Sunday that the injured man had recovered sufficiently from the shock to bear the journey to Swansea Hospital and therefore had him removed there. Though this was done with the consent of his relatives they brought him back to his own home three days later and death occurred on the following Saturday, a week after the injury. At the inquest the coroner, who is a solicitor, could not understand why the patient had been sent to the hospital if the case was hopeless and the moving might cause him pain. The medical man explained that there was a chance of his life being prolonged in comparative comfort if the conditions were suitable, and as proper attendance could not be obtained at the home removal to hospital was advisable. The coroner expressed the opinion that to prolong the patient's life was merely to prolong his agonies and, so far as we can gather, reprimanded the medical man for his action in the matter. From the facts before us we cannot see what else could have been done by the medical man. A fracture through the spine just above the lumbar enlargement of the cord, apparently with severance of the cord, causes a condition requiring the most skilful nursing. The absolute helplessness of the patient, the need for regular passage of the catheter, and the difficulties from incontinence of fæces, all call for the most skilled and careful nursing, and this was absolutely impossible in an isolated miner's cottage. In a hospital this skilled nursing could be obtained and we consider that in advising removal there the medical man did what was best for the patient. Doubtless the friends in bringing him home again a few days later did what they thought best, but the double journey at least doubled the risks of moving the patient and brought him back to less hygienic conditions. The somewhat sudden death, which occurred three days after his return, took place about ten minutes after he had been lifted; the reason of the death is not clear from the data which we possess but Mr. Aldrich considered that it was probably due to intraspinal hæmorrhage and this is quite possible. The coroner was necessarily ignorant of the urgent necessity in such a case for skilled nursing and for his mere ignorance he is not, perhaps, blameable, but he certainly acted unwisely in reprimanding the medical man who ordered the patient's removal to a hospital. We express our entire approval of Mr. Aldrich's action in advising the removal to Swansea Hospital and we consider that this action was not only calculated to prolong the patient's life but was also best calculated to enable him to spend it in ease and comfort. The case is a very good illustration of the helplessness of a coroner who is not a medical man. There are several points in connexion with the coroner's court which need reform but certainly the most urgent is the appointment as coroners only of men who have received a medical training.

A CHANGE OF CLOTHES.

"DRESSING for dinner" is regarded by some as a piece of arrogance and as evidencing merely a desire to appear superior to somebody else. They observe no dignity in the custom and perhaps do not realise the fact that the change of clothes is consistent with personal comfort and cleanliness, whether the new garments donned be of the evening dress pattern or not. The most important meal of the day affords to those who dine in the evening an excellent opportunity of exchanging their work-a-day clothes for a suit which has been brushed and aired. The bracing effect of a change of clothes is well known. Many a man feeling almost too fatigued after an arduous day's work to change his clothes finds himself considerably refreshed when the change is accomplished and at the same time he experiences a feeling of cleanliness and preparedness for his dinner and good digestion invariably waits on healthy appetite. The changing of clothes may even thus favourably affect nutrition. Nor need the changing of clothes be the exclusive luxury of the persons who dress for dinner. The hard-worked clerk, the shopkeeper, and the working man would all be better if they would cast off their work-a-day clothes and put on clean clothes for the evening meal after the day of toil is over. The change freshens the body, gives a gentle stimulus to the wearied hand and head, and a brighter view of things is thereby engendered. The habit is besides cleanly, dignified, and becoming. There can be no doubt that when a man is dressed in his best on Sunday it adds to his cheerfulness and feeling of well-being. The perhaps threadbare appearance or the monotony of the work-a-day clothes chafes the mind and he enjoys the sense of cleanliness which a change of clothes invariably gives to his body. Probably the brightness and cheerfulness of the working classes on Sunday have much to do with the "best" clothes which they wear on that day. The effect of a change of clothes after a day's toil is in some respects similar to that of a bath, mildly stimulating, bracing, dispelling the feeling of tiredness and fatigue so commonly experienced. The explanation most likely is that the clothes after they have been worn all day get more or less clogged and lose temporarily their ventilating properties so that the emanations of the body do not escape freely. All who are able to change their clothes at the opportunity which the cessation of work affords them should do so, not necessarily because the manners of the time require it but because such a custom conduces to the health of both mind and body and is therefore in complete harmony with hygienic principles.

CHEMOTHERAPY.

THE investigation of the action of drugs and other means of combating disease is one of the most important problems in practical medicine and much interest therefore attaches to the work of the newly opened Institute for Chemotherapy at Frankfort. This establishment, which owes its existence to the munificence of the late Herr Georg Speyer, was on Sept. 3rd formally handed over to the municipal authorities of Frankfort by Dr. Darmstatter at the request of the widow of the founder. Professor Paul Ehrlich, the director of the institute, which after the name of the founder has been called the Georg Speyer Haus, opened the proceedings by an address on the Aims of Chemotherapy. He said that certain substances on being introduced into the living organism from without became subsequently distributed in the tissues in a manner which permitted inferences to be drawn as to the chemical constitution of the several organs. For instance, when methylene blue was injected it stained the peripheral nerve-endings blue and there was therefore reason to suppose that methylene blue stood in a particular relationship to the nerve-endings. This was expressed by saying that methylene blue was neurotropic. Most of the dyes stained several tissues and were therefore said to be polytropic. The study of the distribution of such substances was of considerable importance, for they could only exert an action on those parts of the organism which they were able to reach and where they were stored. A knowledge of the laws of distribution was therefore necessary to rational therapeutics. Drugs to which in consequence of their chemical constitution a therapeutic effect was attributed would be useless if they could not reach the diseased organ. Mere accumulation or storing up was not enough to exert any action but a second determining element was necessary to bring about a specific action. A distinction must therefore be made between two different factors—namely (1) the distributive constituents which regulated the distribution, and (2) the pharmacophoric group which caused the specific action. These relations found the most marked expression in those toxic substances which the living organisms themselves produced and which were intimately connected with the doctrine of immunity. In these toxic substances it was possible to distinguish at once a complex which controlled the distribution (the haptophore group) and the toxophore group which caused the toxic action. In a distinct class of these poisons even the haptophore and toxophore groups existed in connexion with two separable substances the union of which brought about the action. Continuing his address, Professor Ehrlich said that an essential object of the new institute would be to find substances and chemical groupings which possessed a particular relationship to special organs (organotropic substances). Their action might be compared to that of vehicles carrying loads, and it was of special importance to associate with them chemical groups having appropriate pharmacological or toxicological qualities so that the proper effect might be produced at the place where it was required. This line of pharmacological investigation has yielded good results but it must nevertheless be remembered that most of the substances used in pharmacy were directed not so much against the disease itself or its cause as against certain of the symptoms It was therefore necessary to search for real remedies, substances which might be either organotropic or etiotropic in action. The possibility of producing certain diseases in animals and of trying therapeutic experiments on them was of the greatest value in these researches and on these lines medical science has in the study of infectious diseases already achieved great results. Here the living organism was the retort which without external aid automatically prepared specific etiotropic therapeutic substances, such as antitoxins, which were directed exclusively against the cause of the disease and were therefore monotropic. The study of these bodies was, and would continue to be, the object of the Institute for Experimental Therapeutics, over which Professor Ehrlich has presided up to now and in which he has been succeeded by Dr. Darmstatter. The object of the Georg Speyer Haus, on the other hand, was chemotherapy or the manufacture of such remedies in the laboratory of the chemist. It has been found, for instance, that certain substances possessing an intense colour have a special action on trypanosomiasis. Mice infected with one particular species of trypanosoma not only recover when treated with trypan red but are rendered completely immune to the parasite. In conclusion, Professor Ehrlich said that Professor Alfred Lingard has also observed a similar effect in the case of horses, among which trypanosomiasis caused great ravages.

SOME CASES CONNECTED WITH BUTTER AND MARGARINE.

AT the Mansion House police court recently a provision importer carrying on business at Dalston was fined £6 10s., with £5 5s. costs, in respect of butter imported by him from Holland which was adulterated with foreign fat to the extent of from 16 to 18 per cent. He admitted the facts and gave all possible information and assistance in his power, so that there was every reason to believe that his excuse was of a genuine nature and that he had been the victim of an unscrupulous Dutch firm. The exporters, a firm using the name "Die Butterblume," at Wonw in Holland, had given him a written assurance of the purity of the butter, which was marked "Guaranti Pure Creamery." Of course, if the adulteration had been stated upon the packages no objection would have been made to it. It was mentioned that the action of the Customs authorities had been taken in consequence of warning received from the Dutch Consul-General in London, who had also informed the defendant of what the consignment might contain, and it was also stated that the same company had been concerned in nearly every case of adulterated Dutch butter brought before the court. In the circumstances the Dutch Consul-General merits the commendation of his countrymen as well as that accorded to him by the Lord Mayor, for anything more likely to injure the reputation of Dutch butter and of the merchants dealing in it could hardly be conceived. So far as the British importer is concerned he has been fined and has lost the commission which would have been due to him from the consignees who also will have found the transaction an unprofitable one. It is, however, necessary in the public interest that where the purity of food is concerned those traders who handle it within the jurisdiction of our courts should be responsible and it is for them to supplement by their own care and watchfulness the vigilance which in this case was displayed by the public authorities. A simpler case and one of a more usual description also connected with butter was tried by the magistrate at West Ham, in which margarine was sold as butter to an inspector under the Sale of Food and Drugs Act, the proportion of foreign fat shown in the sample bought by him amounting to 83 per cent. The defendant was a married woman and her husband, who appeared as a witness on her behalf, said that he had been selling margarine just before the inspector came in and had left some of it on the block which his wife had sold inadvertently as butter. The value of this ingenuous tale was discounted by Dr. C. Sanders, the medical officer of health of West Ham, informing the bench that the husband had twice been convicted of offences similar to that forming the subject of inquiry and that the wife had been convicted once for the same thing and also for refusing to sell to an inspector. A fine of £10, including costs, was imposed. In another case a man at Royton, near Manchester, was summoned recently on account of the margarine which he sold. The county council prosecuted and the case is interesting because of the light which it throws on the shades and degrees in the quality of what is used largely as food by the working classes. The margarine in question was sold at 4*d.* a pound. Analysis showed 20·10 per cent. of water, 71·42 per cent. of fat, 6·93 per cent. of salt, and 1·55 per cent. of curd and other ingredients. The water was excessive and the fat was deficient. The defendant's solicitor said that there was no standard of margarine set by law, which said that it "usually contains," not that it "must contain," 12·15 per cent. of water and no more than 80 per cent. of fats. It was a case where the magistrates could exercise their discretion as to what was or was not margarine. The question was, Were the public deceived? It was not 1*s.* 2*d.* butter but fourpenny margarine which did not pay the manufacturers but which a certain section of the public wanted. Perhaps there ought to be no scepticism as to its not paying the manufacturers for they are men of business and do not pose as self-sacrificing philanthropists. The prosecuting solicitor said that "fourpenny margarine did pay someone as it had cost the country a large sum to get convictions in other towns." This case was settled on payment of costs by the defendant. It would be of some interest to know the composition of the fat in fourpenny margarine, what it is, whence and from what animals it comes, and how it is collected.

A WELL-MERITED COMPLIMENT TO A MEDICAL MAN.

Dr. William Stewart, who has for a great many years held a high position among the medical profession in the Republic of Paraguay in South America, was on August 5th the recipient of many tokens of professional and popular esteem. Asuncion, the capital of the Republic, is a town of some 30,000 inhabitants and the local newspapers (*El Civico* and *El Diario*), published in Spanish, give a very full account of the proceedings. Dr. Stewart was born at Grantully in Perthshire in 1830 and studied medicine at the Universities of Edinburgh and Aberdeen, graduating at the latter as M.D. in 1853 and taking the diploma of L.R.C.S. Edin. in 1855. During the Crimean war he had charge of the D Division Barrack Hospital at Scutari, near Constantinople, and on the conclusion of the war he was sent by the British Government to Rio de la Plata where he arrived in September, 1856. In March, 1857, he entered the Paraguayan service, his first task being to reorganise the medical department of the army and to form a school of medicine in which at the beginning there were 50 students. In 1864 he was made surgeon-major in the army and surgeon-major-general in 1867. Not long after this he went to Edinburgh and studied the use of antiseptic methods in Lord Lister's wards in the Royal Infirmary. Returning to Paraguay in 1870, he introduced antiseptic surgery in Asuncion, where he was surgeon both to the military hospital and the Caridad Hospital and was also at the head of the department of health. Paraguay has had a very troubled history as regards domestic politics, wars with neighbouring nations, and general finance, and in addition to his professional work Dr. Stewart has rendered the Government of his adopted country various political services both in South America and England. By his marriage with Señora Venancia Frias, a lady belonging to one of the principal Paraguayan families, he has had three sons and four daughters. The celebrations of August 5th were in recognition of Dr. Stewart having completed 50 years of professional work. In the morning there was a procession on a large scale organised by two football clubs and consisting mainly of students. Dr. Stewart, in acknowledgment of the compliment, eulogised football in glowing terms and a match followed. In the afternoon at the National Theatre there was a crowded public meeting arranged by the medical profession of the town and attended by the principal inhabitants. The chief part was taken by Dr. Manuel Pérez, who delivered an eloquent speech, and at the conclusion of it, in the name of the medical profession of Paraguay (*el cuerpo médico del Paraguay*) he handed to Dr. Stewart a gold medal and a numerously signed address. Dr. Stewart then returned thanks in moving and appropriate terms, after which the proceedings concluded with some remarks by Dr. Fernando Gorriti.

A PURIN-FREE DIET.

THE action of purin bodies and their metabolism have been carefully studied during recent years, with the result that a comparatively new school of dieteticians has arisen who consider that it would be well for the human race if purin-containing foods could be as far as possible eschewed. Perverted metabolism is, of course, responsible for many human ills and there are indications apparently that the purins place a strain upon the metabolic processes which amongst other things may account for the prevalence of gout and urinary disorders The purin bodies in certain vegetable foods, as, for example, peas, beans, asparagus, and even oatmeal, are credited with furnishing a reason for the excessive excretion of uric acid which follows their ingestion. The presence of a notable amount of purins again in beer may possibly explain the harmful effects of this beverage in gout or account for some of the pathogenic changes which result from an indiscreet indulgence in alcoholic beverages. Purins, however, appear to be absent in all spirits and in port, sherry, and claret, but they are, of course, abundant in tea and coffee. It may be stated that broadly the purins are nitrogen products which favour in metabolism the formation of uric acid. The best known type next to uric acid itself is perhaps caffeine or xanthin. Apparently the purin bodies contain urea groups and analysis seems to show that very few foods, either animal or vegetable, are entirely free from these nitrogenous bodies. Still the variations are pretty wide: sweatbread, for example, contains 70 43 grains per pound and mutton 6·75 grains per pound, salmon 8·15 grains per pound, cod 4·07 grains per pound, beans 4·16 grains per pound, and onions 0·06 grain per pound. It is, however, obvious that the choice of a variety of foods becomes somewhat restricted when the consumer decides to limit himself to practically purin-free foods. In this choice. moreover, a good many of the palatable and tasty foods would certainly have to be omitted. To the epicure who is not necessarily a glutton this would mean so many dietetic joys absolutely cut off. About what ought or ought not to be eaten or drunk there are certain to be extreme views. The vegetarian and fruitarian are examples of food extremists who have, as a matter of fact, very little accurate physiological and chemical data to support their favourite views. The absolute abstainer, again, from all alcoholic drinks is just as much an extremist as the toper. In the case of the advocate for a purin-free, or as it is sometimes erroneously called, uric-acid free diet (for we are not aware that any food contains uric acid as such), it has to be admitted that nearly all foods contain minute traces of purins, so that it is evidently not possible to eliminate purins altogether. Further, as will be seen from an interesting paper on this subject which we publish in another column this week, the purin-free food eater is enjoined to eat sparingly, to reduce the number of meals, and to be careful about completing the masticating process, otherwise the fact that a diet is purin-free is of little value. Apart from purins this is of course excellent advice to the patient obviously suffering from disease which is the result of over-indulgence in rich foods. A great number of people would enjoy far better health if they would be content with plain and plainly served food and were to eat less than their appetites so frequently tempt them to do. It is very generally accepted that the average man eats a good deal more than his actual physiological necessities require, and if that is so, and if he would only observe strict sobriety in regard to both the food and the drink which he consumes, we imagine that the absolutely purin-free diet might safely be disregarded. But it is assuredly *something* accomplished if under the name of purin-free diet the same end is attained and it must be admitted that we are bound to select special foods for special circumstances.

THE BRENTFORD ISOLATION HOSPITAL.

THE allegations which have recently been made with reference to the administration of this hospital are of such a serious nature as to call, it seems to us, for investigation by the medical department of the Local Government Board or of some tribunal other than that of the local authority. The statement which has been circulated in the lay press to the effect that two of the nurses have been discharged accentuates the necessity for an inquiry because, if it be true, it shows that the general supervision of the hospital by the Brentford district council has been of a very indifferent nature and it is improbable that the council can set matters right by the summary dismissal of two of the officials. Moreover, the local district council is not well fitted to adjudicate upon a question which requires for its proper comprehension an intimate knowledge of the difficulties which beset the administration of isolation hospitals. It is alleged that on May 19th a girl was taken to the hospital suffering from scarlet fever, that she was discharged on July 3rd, and that on July 11th two other children were removed from the same house suffering from scarlet fever. So far we have another illustration of the not uncommon phenomenon of "return" cases and whether blame is to be attached to the hospital officials is a matter which can only be determined by the evidence. It is, however, stated that the patient's finger- and toe-nails shed themselves after leaving the hospital and that her head was verminous. The latter part of this statement, if substantiated, is a grave charge against the nursing. But it is further alleged by the father that the two children who are supposed to have contracted scarlet fever from the case first discharged were on their arrival at the hospital placed in a ward in which there was an outbreak of measles. This is the point upon which much additional light is needed before a fair judgment can be passed. It is necessary to know what was done with the first cases of measles which occurred and whether they had been removed and the ward disinfected before the "return" cases which are here in question were admitted. Furthermore, we should be glad to know what is the isolation provision in the shape of small wards which the hospital possesses and what is the number of the nurses. The fact that both the children contracted measles and that one of them died necessitates a searching inquiry, and the allegation that "no nurse or attendant walks the ward between the hours of 10 P.M. and 5 A.M." will need considerable explanation. No reference has so far been made to the medical control of the hospital but this is a matter which should be gone into very thoroughly. Before the blame can be equitably apportioned the facts as regards the control exercised by the district council must be ascertained and the adequacy of the nursing and small ward accommodation determined. We have for several years past urged in the columns of THE LANCET the desirability of providing adequate small ward accommodation in isolation hospitals and no one at all familiar with isolation hospital administration would question the statement that there would be fewer patients contracting a superadded disease if adequate isolation wards and a sufficiency of nurses were available. But it is in the provision of these two things that local authorities are often very hard to move and they sometimes leave the officials of the hospital to bear the brunt of the short-sighted policy of the district council. We do not in the least imply that this has been the case in the present instance, but the fact of lack of accommodation being a not infrequent feature of isolation hospitals suggests that if the Brentford allegations are to be investigated adequately a central rather than the implicated local authority should undertake the task. The matter should certainly not be allowed to rest in its present very unsatisfactory position.

RUPTURED GASTRIC ULCER IN A BOY.

GASTRIC ulcer is rare in children; still rarer is ruptured gastric ulcer. In the *Scottish Medical and Surgical Journal* for September Dr. G. K. Paterson states that he has been able to find recorded only 14 cases of ruptured ulcer in children under the age of 14 years. He reports the following case. A boy, aged 12 years and eight months, began to suffer from epigastric pain which occurred irregularly with regard to meals, sometimes immediately after, sometimes half an hour after, sometimes two hours after, and sometimes not at all. Previously he had not suffered specially from any ailment except recurring laryngeal catarrh. The pain was of a burning character and there was no gastric flatulence or vomiting. The tongue was slightly furred. A light diet and remedies for dyspepsia were prescribed with little result. 12 days after the onset, at about 7 P.M., after a light dinner he suddenly felt a severe pain in the abdomen. Dr. Paterson saw him an hour later and found him collapsed and pale, with slow pulse and rigid abdomen. There was no loss of liver dulness and the temperature was normal. He complained much of pain about the umbilicus and almost more of pain in the left shoulder, the latter being aggravated with each inspiration. The abdominal pain was relieved by a fomentation and gentle friction and all the symptoms of shock passed off in half an hour. The case looked like one of severe colic but the shock and previous pain made Dr. Paterson doubtful. He gave instructions that he was to be sent for if the boy became worse. He saw the boy again next morning at 9 A.M. The patient had vomited at 9 P.M. on the previous evening and again in the night and there had been frequent retching. The abdominal pain became easier during the night. There were signs of peritonitis—distended abdomen, raised temperature, and loss of liver dulness. 18 hours after rupture laparotomy was performed by Mr. F. M. Caird. General peritonitis with a mass of lymph over the liver and stomach was found. When the lymph was separated a punched-out ulcer of about the size of a split pea was found in the anterior wall of the stomach about two inches from the middle of the lesser curvature. A smear of peritoneal fluid was taken and showed a culture of staphylococci. The peritoneum was washed out and the lymph was swabbed off the surface of the liver and from the recto-vesical pouch. Nutrient enemata were given for three days and then mouth-feeding was begun. Convalescence was interrupted by a severe attack of double pneumonia which almost proved fatal. A case of perforation of a gastric ulcer in a boy, aged 13 years, has been recorded in our columns by Mr. W. Watson Cheyne and Dr. H. Wilbe.[1] The pain and rigidity were most marked on the upper part of the right side. Fulminating appendicitis was diagnosed but on operation a perforated gastric ulcer was found which was successfully sutured.

THE PUBLIC HEALTH OF BELFAST.

IN another column we publish an account from one of our Irish correspondents of the election of the superintendent medical officer of Belfast. The officer elected is Mr. H. W. Bailie. His qualifications, as stated in the Medical Directory, are L.R.C.P. & S. Edin. and L.F.P.S. Glasg., and we learn from the reports of the meeting of the Belfast council held on Oct. 1st that he has recently obtained a Diploma in Public Health, but from what body is not stated. The health of Belfast is by no means in a satisfactory condition. For instance, the death-rate per 1000 for the year 1905 was 20 1, being second highest on a list of 19 towns in the United Kingdom. When we come to the disease in the Registrar General's annual summary entitled "fever," of which the definition is "continued fever, mainly enteric," we find that 135 deaths under this heading occurred in Belfast, 131 of these being due to enteric fever and the other four to pyrexia. The figures per 1000 inhabitants in 19 towns of the United Kingdom for 1905 show that the Belfast death-rate was 0·38, the next highest on the list being Salford, with a death-rate of 0 19. The Belfast fever death rate is thus exactly twice the death rate of the next town on the list. To grapple with conditions like these we might have thought that the Belfast city authorities would have chosen a medical officer with more practical experience of public health work than Mr. Bailie apparently possesses. The appointment is subject to the approval of the Local Government Board and we hope to deal with the matter more at length in a future issue.

THE WARRANTING OF MILK.

AT the South-Western police court a point has been raised with regard to the sale of milk adulterated with added water which apparently will require a decision of the Divisional Court before it is finally decided. The defendant who sold the milk retail relied for her defence upon a warranty from the wholesale dealer, but the legal representative of the Battersea borough council objected to the alleged warranty on the ground that it was too indefinite in its terms. The magistrate read the document, in which the words relied on were "all milk supplied is to be pure," and expressed the opinion that it was full of ambiguity, concluding the case by fining the defendant, who had been convicted four times before, £5, with costs. It was stated that the question of the sufficiency of the warranty would be referred to the High Court and it is certainly one of some importance to milk-sellers and to the public.

UNFOUNDED REFLECTIONS UPON A MEDICAL MAN.

AN inquest was held on Sept. 24th on the body of a Mrs. Oliver, a widow, aged 63 years, who died on Dec. 1st, 1905. Some two months ago the body was exhumed for an inquest which was then held and adjourned. The body had been apparently exhumed on the request of the brother of the deceased and Mr. O E. Adams, the medical attendant, offered no objection. The affidavit of the brother of the deceased stated that Mr. Adams had been in a great hurry to get the body buried. As a matter of fact, it had been buried six days after the death. The affidavit also stated that the deponent believed the death of his sister to be due either to the administration of improper drugs or to incorrect treatment. Evidence was given by the deceased's sister-in-law and by her maid that the deceased had for a long time been suffering from her heart. Mr. Adams, who gave evidence, said that he had first treated Mrs. Oliver in 1898 for dyspepsia. Some three years afterwards symptoms of cardiac degeneration set in. Dr. J. Rose Bradford had seen her with him in 1904 and had agreed entirely with his treatment. As to the funeral he had had nothing to do with it. Evidence was also given by Dr. W. H. Willcox, analyst to the Home Office, and by Dr. F. J. Smith, professor of forensic medicine at the London Hospital. The evidence of this gentleman showed that there was no indication whatever of any irritant or corrosive poison, or indeed of any other poison. The jury returned a verdict saying that the certificate of death given by Mr. Adams was perfectly correct and that there was no ground for attributing any unprofessional conduct to him. We must congratulate Mr. Adams upon the result of this case, but the conduct of the relatives responsible for the exhumation and the inquest was so singularly foolish that it almost seems unnecessary to say anything about it. The case is only one more example of the way in which medical men can be worried and harassed for doing no more than their duty, and we are glad to see that all the lay papers give publicity to the case and especially to the verdict of the jury.

ON Sept. 28th Mr. Alderman Thomas Boor Crosby, M.D. St. And., F.R.C.S. Eng., was admitted a Sheriff of the City of London for the ensuing year. On Sept. 26th Dr. Crosby was presented with his shrieval chain and badge on behalf of the inhabitants of his ward, the Langbourn, by Lord Avebury. The chain contained six medallions bearing the arms of the Turners' Company, the Royal College of Surgeons of England, the University of St. Andrews, the Society of Apothecaries of London, St. Thomas's Hospital, and the City of London.

THE Mabel Webb research scholarship, tenable by past or present students of the London (Royal Free Hospital) School of Medicine for Women, will be awarded in October. The scholarship is worth £30 a year and is renewable for a second or a third year. The candidate must undertake research work in pathology, physiology, or chemistry. Applications should be sent to the secretary of the school by Oct. 20th stating the nature of the research work which it is proposed to undertake.

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[1] THE LANCET, June 11th, 1904, p. 1641.

THE opening address of the session 1906–07 of the North East London Clinical Society will be given on Thursday, Oct. 11th, at the Tottenham Hospital at 4 P.M. by Sir Halliday Croom. The subject of the address will be the Obstetrical and Gynæcological Relations of Exophthalmic Goitre. All medical practitioners are cordially invited. The annual dinner will be held at the Great Eastern Hotel, Liverpool-street, at 7.30 P.M. on the same day.

THROUGH the munificence of Mrs. Stephen Ralli the endowment of the Bacteriological and Pathological Laboratory which she established at the Sussex County Hospital in memory of her husband has been increased to £20,000 and in consequence of this addition to the fund it is proposed to appoint an assistant pathologist. The post will be advertised shortly and the office will be entered upon at about the commencement of the new year.

WE regret to announce the death, at the age of 60 years, of Brigade-Surgeon Lieutenant Colonel Alexander Crombie, C.B., M.D. Edin., I.M.S. retired, which took place in London on Sept. 29th. We hope to give an account of his life and work in an early issue.

IT is officially announced in the *London Gazette* that Dr. Diarmid Noel Paton has been appointed to the chair of physiology in the University of Glasgow *vice* Professor John Gray McKendrick, LL.D., F.R.S., who has resigned.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Oct. 4th, 1828.

There is scarcely a library in these countries, which the fashionable spirit of monopoly has not fenced round with some impossible or inconvenient conditions of admission. It is this "dog in the manger" spirit which has given rise to a pleasant story, told of the College of Physicians of London. "A book, which ought not to be unknown by any well-read man, was once inquired for in their library, by a person of more than ordinary curiosity; the volume was in a press which was locked, and after a very diligent search, the key was found in a place where it was clearly ascertained, from circumstances, it must have remained undisturbed for eighty years!" We can match this story by one in which we were ourselves the principals in the library of the Dublin College of Surgeons: "We were there once on a visit; the conversation happened to turn on the discoveries of Laennec; an appeal was made to his volume, which was taken down from one of the shelves for reference; but, *mirabile dictu*, though the work, we learned, had been nearly two years in the library, not a single sheet of it had yet been cut." On learning the regulations of the establishment, and that Mr. Colles, one of the principal surgeons of Dublin, was then ridiculing the invaluable discovery of Laennec, by representing his stethoscope as useful only for carrying adhesive plaster, our surprise, of course, ceased. But to preserve books this year in this way, that they may be preserved the next, and so on for ever, is idle; it would almost be better to use them, like the Caliph Omar, in heating baths and ovens, than not to use them at all. A reasonable wear and tear of books must be borne with; they ought to be used as much as is consistent with their preservation, and preserved as much as is consistent with a free and ample use. The safer side to err upon, especially with such works as may be replaced, is to sin by too great a use of them; for books, when worn out, may be restored; but the opportunity of acquiring knowledge, which is afforded to a generation, if once lost, can never be redeemed.[1]

THE LONDON MEDICAL EXHIBITION.

THE organising committee of the London Medical Exhibition may be congratulated on the result of its experiment last year of inaugurating an annual medical exhibition in London, because this year the number of exhibitors has not only considerably increased but the exhibition on the whole presented a really representative selection of novelties in regard to drugs, special foods, medical and surgical appliances, and so on of general interest to the medical profession. The exhibition was opened at the Royal Horticultural Hall, Vincent-square, Westminster, on Oct. 1st and closed on the 5th, during which interval it was obvious that a great many medical men appreciated this opportunity of coming into contact with modern surgical, pharmaceutical, dietetic, and sanitary advances. The attendance, despite the inclemency of the weather on the second day of the exhibition, was satisfactory to all concerned. The exhibits were attractively arranged and the space allotted to the stalls was such as to be comfortable alike to the exhibitor and the visitor. As a rule, the visitor was not unduly pressed into inspecting the exhibits and on the whole the conduct of the exhibitor was dignified and the fact that the exhibition was opened exclusively in the interests of medical men was carefully borne in mind.

The majority of the stalls appeared to be devoted to the exhibition of improved pharmaceutical preparations and of advances in drugs. Messrs. Duncan, Flockhart and Co. (143, Farringdon-road, London, E.C.) presented specimens of preparations containing formates, the best type of which is the compound syrup of glycerophosphates and the formates of sodium and potassium. The formates are reported to give excellent results in muscular fatigue and in neurasthenia and nervous prostration. Another interesting preparation was a carbolated antiseptic lotion containing boric acid and phenol which serves as a useful gargle for septic throats. The exhibit included the well-known anæsthetic products of this firm—chloroform, ether, and ethyl chloride. Messrs. Baiss Brothers and Stevenson (4, Jewry-street, London, E.C.) exhibited a number of fine pharmaceutical preparations, including ophthalmic capsules, medicated ear bougies, bismuth compounds, and a glycerol preparation of glycerophosphates and hæmoglobin. There was also exhibited an excellent preparation of glycerophosphates and formates. Risiccol (Rudolph Demuth, 31, Budge-row, London, E.C.) has already been reported upon in our analytical columns. It consists of a castor oil powder containing pure castor oil and magnesia. It is practically tasteless and the well-known aperient qualities of the oil are preserved intact. There seems to be little doubt that purified petroleum, though not itself of any dietetic value, is an excellent vehicle for the administration of the hypophosphites, while it is antiseptic and soothing in particular to the intestinal tract. One of the best preparations of this kind is Angier's emulsion (Angier Chemical Co., Limited, 32, Snow-hill, London, E.C.). This company also prepares tablets for the throat which contain specially purified petroleum, combined with pure elm bark and other ingredients suitable for application to the throat under irritable conditions. There were a number of elegant pharmaceutical preparations on the stall of Messrs. C. J. Hewlett and Son (35 and 42, Charlotte-street, London, E.C.). We may refer to the excellent bismuth and pepsin preparation which has been before the profession as a valuable agent in dyspepsia, gastritis, and sickness. The exhibit included a number of antiseptic preparations of merit some of them contained in the form of cream or jelly in collapsible tubes. In addition to panopepton and pepsencia, which are well known in the treatment of feeble digestive powers, Messrs. Fairchild Bros. and Foster (Snow Hill Buildings, London, E.C.) exhibited a pure lecithin and their peptogenic milk powder. The exhibit included certain digestive products and enzymes. Messrs. F. Newbery and Sons (27 and 28, Charterhouse-square, London, E.C.) exhibited a preparation which they call liquid pancreopepsine and which contains pepsin, pancreatin, and lactic and hydrochloric acid. There was shown also ingluvin, the bitter principle extracted from the gizzard of the domestic chicken, which is said to check emesis during gestation and to give relief in atonic dyspepsia. The exhibit of Messrs. Burgoyne, Burbidges, and Co. (12 and 16, Coleman-street, London, E.C.) included the special preparation of the Heyden Chemical Manufacturing Co. Amongst these were acid acetylosalicylic tablets for rheumatism and bisalicylate of bismuth, which latter is of value as a gastro-intestinal antiseptic. The exhibit included also colloid mercury and silver preparations. Messrs. Thomas Christy and Co. (4, 10, and 12, Old Swan-lane, Upper Thames-street, London, E.C.) exhibited a wide variety of drugs and medical preparations. Amongst these may be mentioned "pankreon," a preparation obtained from fresh pancreatic glands combined with tannic acid, and said to be useful in gastritis; ergoapiol, a compound of apiol, ergotin, and oil of savin, for administration in amenorrhœa and dysmenorrhœa. One of the largest stalls was that on which Messrs. Parke, Davis, and Co. (11, Queen Victoria-street, London, E.C.) exhibited their preparations, including biological and pharmaceutical products. Amongst the former were various adrenalin products, anti-diphtheria serum, and thyroidectin obtained from the blood of thyroidectomised animals; amongst the latter there were acetozone, a very powerful antiseptic, chloretone, a hypnotic and remedy for seasickness, and other preparations. There were many interesting pharmaceutical preparations on the stall of Messrs. Hearon, Squire, and Francis, Limited (38 and 40, Southwark-street, London, S.E.). These comprised an elixir containing heroin and terpene hydrate which is of distinct value as an expectorant and useful as a pectoral mixture; codeina jelly, and a compound hypophosphite syrup with a minimum of acid. The preparations included tablets of bone marrow, brain, kidney, suprarenalin extracts, and thyroid gland. Organic therapeutic products were the feature of the exhibits of Messrs. Armour and Co., Limited (Atlantic House, Holborn Viaduct, London, E.C). There were also digestive ferments of high and standard activity, such as pepsin and pancreatin. Synthetics formed the feature of Messrs. A. and M. Zimmermann's exhibit (3, Lloyd's-avenue, London, E.C) There were urotropine, an urinary antiseptic, and beta-eucaine, a non-toxic and non-irritating local anæsthetic. Besides these there were organic therapeutic preparations, suggested by Professor Poehl of St. Petersburg. Diuretin, described as a well-known diuretic and anti-asthmatic; santyl, as a tasteless and non-irritant salicylic ester of sandalwood oil for the internal treatment of gonorrhœa; and styptol, as a harmless and trustworthy uterine hæmostatic derived from cotarnin were the drugs of note exhibited on the stall of Messrs. Knoll and Co. (27A, St. Mary-at-Hill, London, E.C.). The exhibit included certain dermatological preparations. Alkaloidal products formed the major part of the exhibit of Messrs. C. and F Boehringer and Soehne of Germany, their agents in London being Messrs. Domeier and Co., Limited (20 and 21, Mark-lane, London, E.C.), but some important preparations were exhibited in the shape of arseno-ferrotose, a compound of arsenic and iron in organic combination; lactophenine, an antipyretic and hypnotic; and ceridin, which is described as a yeast fat and useful in furunculosis. Mr. E. Merck (16, Jewry-street, London, E.C) showed a number of his fine chemicals and pharmaceutical preparations, including glucosides, alkaloids, sera, and organic bromine and iodine preparations (bromopin and iodipin which are said not to give rise to bromism or iodism respectively). Messrs. Arthur H. Cox and Co. (Brighton, and 37, Berners-street, London, W.) exhibited some beautifully made pills and tablets. A very large assortment of elegant pharmaceutical preparations was on view on the stall of Mr. William Martindale (10, New Cavendish-street, London, W.). These included many up-to-date preparations, such as the elixir of sodium formate and a cinnamate and coumarate preparation for the treatment of malignant disease.

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[1] Excerpt from a leading article on the library of Dublin College which "has lately enacted a law, by which, together with the payment of three guineas, the candidate for the honour of reading in the library, is to be balloted for, and one-third, at least, of the whole votes required to secure his election."

(To be concluded.)

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8386 births and 5290 deaths were registered during the week ending Sept. 29th. The annual rate of mortality in these towns, which had been so high as 22·3, 21·1, and 19·3 in the three preceding weeks, further declined last week to 17·4. During the 13 weeks of last quarter the death-rate in these towns averaged 16·2 per 1000, the rate during the same period in London did not exceed 15·4. The lowest death-rates in the 76 towns during the week under notice were 4·8 in Hornsey, 7·2 in King's Norton, 9·3 in Leyton, and 9·4 in Willesden; the rates in the other towns ranged upwards to 26·1 in Middlesbrough, 26·2 in Stockport, 28 5 in Merthyr Tydfil, and 30·5 in Preston. The 5290 deaths in the 76 towns showed a further decline of 575 from the high numbers in recent weeks, but included 1354 which were referred to the principal epidemic diseases, against 2532 and 2011 in the two previous weeks; of these, so many as 1137 resulted from diarrhœa, while 53 were referred to whooping-cough, 52 to diphtheria, 50 to "fever" (principally enteric), 34 to measles, 28 to scarlet fever, and not one to small-pox. The deaths from these epidemic diseases were equal to a mean annual rate of 4 5 per 1000 in the 76 towns, while the rate in London did not exceed 2·9. The lowest death-rates from these epidemic diseases last week were 0·9 in Leyton, 1·0 in Yarmouth and in Burton-on-Trent, and 1·4 in King's Norton; whereas they ranged upwards in the other large towns to 9·8 in Grimsby, 9·9 in Middlesbrough, 11·0 in Hanley, and 13·4 in Preston. The deaths referred to diarrhœa (mainly of infants under one year of age), which had been 2342, 2318, and 1768 in the three preceding weeks, further declined last week to 1137; the highest annual rates from this disease during the week were 8·0 in Newcastle upon-Tyne and in St. Helens, 9·8 in Grimsby, 11·0 in Hanley, and 13·0 in Preston. Whooping-cough caused the highest death-rates last week in South Shields; and measles in Rochdale, Norwich, and Oldham. The fatal cases of diphtheria were less numerous than in the previous week but included five in Sheffield and five in Manchester and Salford. The 50 deaths referred to "fever" considerably exceeded the number returned in any previous week of this year and included five in Bradford, four in Hull and in Nottingham, and three in Liverpool. Of the fatal cases of scarlet fever, six were returned in Sheffield. No case of small-pox was under treatment in the Metropolitan Asylums hospitals during the week, no case of this disease having been admitted thereto since the end of June. The number of scarlet fever cases under treatment in the Metropolitan Asylums hospitals and in the London Fever Hospital, which had increased in the four preceding weeks from 3042 to 3164, further rose to 3388 during the week under notice; 533 new cases were admitted to these hospitals during the week, against 415, 440, and 473 in the three previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 105 and 149 in the two previous weeks, declined again last week to 133, and were 28 below the corrected average in the corresponding week of the four preceding years, 1902–05. The causes of 45, or 0·9 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Sheffield, Bristol, West Ham, and in 46 other large towns; the proportion of uncertified deaths showed, however, a considerable excess in Newport, Sunderland, Liverpool, and Birmingham.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 16·8 and 16·1 per 1000 in the two preceding weeks, was again 16·1 in the week ending Sept. 29th and was 1·3 below the mean rate during the same week in the 76 English towns. The rates in the eight Scotch towns last week ranged from 11·0 and 13·6 in Aberdeen and Perth to 17·7 in Glasgow and 19·6 in Leith. The 552 deaths in the eight towns corresponded with the number in the previous week, and included 104 which were referred to the principal epidemic diseases, against 138 and 122 in the two preceding weeks. These 104 deaths were equal to an annual rate of 3·0 per 1000, which was 1·5 below the rate from the same diseases in the 76 English towns. Of these 104 deaths, 82 resulted from diarrhœa, nine from whooping-cough, six from "fever," four from diphtheria, and one each from measles, scarlet fever, and chicken-pox. The deaths referred to diarrhœa in the Scotch towns, which had been 104 and 87 in the two preceding weeks, further declined to 82 in the week under notice, but exceeded by 46 the number in the corresponding week of last year; they included 57 in Glasgow, nine in Dundee, four in Leith, and three in Greenock. Eight of the nine fatal cases of whooping-cough and all the six deaths referred to "fever" occurred in Glasgow; of the latter, two were certified as cerebro spinal meningitis. Two deaths from diphtheria were returned in Glasgow. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 50, 58, and 65 in the three preceding weeks, were again 66 in the week under notice, and were seven below the number returned in the corresponding week of last year. The causes of 19, or 3·4 per cent., of the deaths registered during the week were not certified; the mean proportion of uncertified deaths in the 76 English towns during the same week did not exceed 0·9 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 29·4 and 26·8 in the two preceding weeks, further declined to 24·5 during the week ending Sept. 29th. During the 13 weeks of the past quarter the death-rate in the city averaged 21·4 per 1000, the mean rate during the same period being only 15·4 in London and 13·1 in Edinburgh. The 178 deaths of Dublin residents during the week under notice showed a further decline of 17 from the high numbers in recent weeks, and included 37 which were referred to the principal epidemic diseases, against 52, 43, and 39 in the three preceding weeks; these 37 deaths, however, were equal to an annual rate of 5·1 per 1000, the death-rate during the week from the same diseases being only 2·9 in London and 1·2 in Edinburgh. Of these 37 deaths no fewer than 31 resulted from diarrhœa (against 49, 39, and 34 in the three preceding weeks), five from whooping-cough, and one from "fever," while no fatal case of measles, scarlet fever, diphtheria, or small-pox was registered. The fatal cases of whooping-cough showed a marked increase upon recent weekly numbers. The deaths both of infants and of elderly persons again showed a considerable excess. Six inquest cases and five deaths from violence were registered; and 64, or 35·9 per cent., of the deaths occurred in public institutions. The causes of four, or 2·2 per cent., of the deaths registered during the week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

IN accordance with the provisions of Her late Majesty's Order in Council of April 1st. 1881, Fleet Surgeon Joseph Henry Whelan has been placed on the Retired List at his own request (dated Oct. 1st, 1906).

Civil Practitioner N. P. Kirby to be Surgeon and Agent at Balbriggan.

ROYAL NAVAL VOLUNTEER RESERVE.

James Keogh Murphy has been appointed Surgeon (dated Sept. 24th, 1906).

INDIAN MEDICAL SERVICE.

Colonel W. G. King, C.I.E., is confirmed as Inspector-General Civil Hospitals and Sanitary Commissioner, Burma. Lieutenant-Colonel L. A. Waddell, C.B., C.I.E., is permitted to withdraw his application to retire on pension. Major W. H. W. Elliot, D.S.O., I.M.S., is deputed to proceed to America to represent the Government of India at the Military Medical Congress at Buffalo.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major Henry G. Thompson to be Surgeon-Lieutenant-Colonel (dated Sept. 4th, 1906); Surgeon-Lieutenant-Colonel Henry G. Thompson, having attained the prescribed limit of age, is removed from the Army Medical Reserve of Officers (dated Sept. 25th, 1906).

DEATHS IN THE SERVICES.

Surgeon-General William Williamson, I.M.S. (retired), at Boscombe, on Sept. 17th, aged 85 years. He obtained the rank of surgeon-general in 1879 and retired in that rank on pension.

Brigade-Surgeon-Lieutenant-Colonel Alexander Crombie, C.B., I.M.S., Bengal (retired), in his sixty-first year, at his residence in Gloucester-place, London, W., on Sept. 29th. He retired in 1898 while serving as superintendent of the European General Hospital at Calcutta. He was a lecturer on tropical diseases at the London School of Tropical Medicine and Honorary Physician to King Edward VII.'s Hospital. For three years from 1900 he was a member of the India Office Medical Board. He was created a Companion of the Bath in 1902.

VOLUNTEER MEDICAL EXAMINATION.

It is announced that an Army Order will shortly be issued respecting the medical examination of Volunteer recruits, in connexion with paragraph 120 of the Volunteer Regulations and paragraph 13 of the instructions for the physical examination of recruits.

The grant to medical officers of rewards for distinguished and meritorious service is now restricted to officers on the retired list.

The hospital ship *Maine* has arrived at Plymouth from Malta. 41 invalids have been landed and the ship has proceeded with other cases for Haslar Hospital.

Correspondence.

"Audi alteram partem."

DIRECT REPRESENTATIVES AND THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—The time is rapidly approaching when the registered practitioners of England and Wales will again be called upon to exercise the privilege of electing three of their number to represent them in the General Medical Council. I shall esteem it a favour if you will permit me to state through your columns that it is my intention to again offer myself as a candidate for re-election. During the ten years I have had the honour of a seat in the council chamber as a Direct Representative I have done my utmost to promote the cause of medical reform and to advance the best interests of the profession as a whole. I am led to believe that I have discharged the duties to the satisfaction of the profession generally from the fact that, in addition to receiving during the last few months numerous renewed promises of support from medical men in all parts of the country, I have received official intimation that resolutions in favour of my candidature have been passed by the following, among other, important medical organisations—viz., the Society of Members of the Royal College of Surgeons of England; the Association of Physicians and Surgeons of the Society of Apothecaries of London; the Midland General Practitioners' Union, and the Incorporated Medical Practitioners' Association.

In conclusion, permit me to express my best thanks to those who have assisted me by their support at former elections and to say that if re-elected I shall continue to do my utmost to improve the conditions of medical practice and to uphold the honour and dignity of the profession, giving special attention to furthering the interests of those engaged in general practice. Thanking you for your courtesy in permitting me to address your readers through your valuable columns, I remain, your obedient servant,

Callington, Cornwall, Oct. 1st, 1906. GEORGE BROWN.

To the Editors of THE LANCET.

SIRS,—Nearly five years ago I was elected as one of the Direct Representatives on the General Medical Council by the vote of the registered practitioners of England and Wales. I now have to ask for a renewal of the confidence which was then reposed in me—which I trust I have not forfeited. The burning question at the time of the last election was the Midwives Bill. As it is well known, that

Bill has been placed on the statute book, but it does not appear to have answered the expectations of its supporters. It is very desirable that in any future legislation on this subject the necessity of providing for the payment of medical men called to the assistance of midwives should not be lost sight of. By its recommendations to the Privy Council the General Medical Council has helped this matter forward.

In conjunction with the other Direct Representatives I have urged on the Council the fairness of adding to the number of Direct Representatives, which might be done by representation to the Privy Council. This is becoming more and more desirable, as almost every session there is an additional representative added for some new university and so diminishing the relative voting power of the Direct Representatives, which has always been absurdly inadequate. Although the Direct Representatives are out-voted on every occasion when the interests of the universities and corporations are in danger, yet there is no doubt their influence has been felt, especially in those cases in which medical men have been brought before the Council who have sought to obtain unfair advantage over others by canvassing and advertising themselves. The Council cannot be made truly representative of the profession unless a new Medical Act is obtained which should, *inter alia*, very considerably increase the number of the Direct Representatives. This can be done without increasing the aggregate number of the members of the Council—viz., by grouping some of the universities and corporations and giving them alternative representation. It would only be fair in any fresh arrangement of the Council that the dentists, who contribute largely to its funds, should have adequate representation. More stringent clauses should be introduced to check illegal practices. Personally, I think that if the legal phraseology was adopted—viz., that no one should use any colourable pretence that he was qualified to practise medicine or surgery, it would cover a great deal. The finances of the Council are now on a more stable foundation owing to several small modifications as to fees for registration, also to an increased revenue from the property of the Council, and lastly, to the somewhat lessened time taken by the Council in doing its work. More and more work is done by the committees whose work does not loom so much in the eye of the public.

I may claim to have assisted in the work of the committee of the Diploma of Public Health and also of another important committee which was appointed at the instance of Sir John Williams to consider what improvements could be made in the training of medical students for their duties in connexion with midwifery. This committee has made important recommendations to the various medical schools which it is to be hoped will be carried out in the near future. If I am re-elected to the Council I hope to merit the confidence which the profession has hitherto reposed in me.—I am, Sirs, yours faithfully,

Oct. 2nd, 1906. Geo. Jackson, F.R.C.S. Eng. (Exam.)

To the Editors of The Lancet.

Sirs,—The election for three Direct Representatives for England and Wales to the General Medical Council takes place in November next. It is my intention in conjunction with Mr. George Brown and Mr. George Jackson, our present representatives, to offer myself for election. Four years ago I contested a seat on the General Medical Council against Sir Victor Horsley, and although I entered on the contest at the last moment and with no organised committee between 3000 and 4000 votes were recorded in my favour. This large poll encourages me to hope that I may be one of the successful candidates at the forthcoming contest. I am a general practitioner of 35 years' standing and I have taken an active part for many years in endeavouring to reform the Royal College of Surgeons and to obtain for the Members some voice in the management of the College. For 14 years I have been president of the Society of Members of the Royal College of Surgeons of England and am also an ex-president of the Incorporated Medical Practitioners' Association.

With regard to my views on medical politics generally, I am in entire agreement with Mr. Brown and Mr. Jackson. I may, however, state that I am strongly in favour of suppressing all clubs and medical aid societies which permit canvassing for members. I would also support an Act of Parliament for increasing the number of Direct Representatives and giving direct representation to the dental profession. As regards the medical curriculum, at present too much time is given to studying subjects of a theoretical character to the neglect of clinical and practical work.

I am, Sirs, yours faithfully,
Joseph Smith, J.P., M.R.C.S. Eng., L.M.,
L.S.A. Lond., D.P.H. Camb.

Gunnersbury, W., Sept. 29th, 1906.

A REASONABLE PROTEST.

To the Editors of The Lancet.

Sirs,—I venture to ask your advice in the following matter. On several occasions during the past few years I have had my attention directed to certain instrument makers' catalogues containing illustrations of anæsthetic apparatus purporting to have been devised by me but differing in important details from apparatus which I have designed. On one occasion, at the request of Messrs. Barth and Co., who have for many years manufactured apparatus for me, I wrote to one of these firms and the figures in question were removed from their catalogue. Quite recently, however, Messrs. Barth and Co. have again drawn my attention to a catalogue of an Edinburgh firm (herewith inclosed) in which, as you will see, my name prominently appears in connexion with several inhalers, some of which are different in principle to those which I advocate.

Two points present themselves. Firstly, to what extent are instrument makers whom the author or deviser of an instrument has never employed, and perhaps never heard of, justified in using that author's name without permission? and secondly, is it right that such manufacturers should supply the profession with apparatus copied, *and often very incorrectly copied*, from apparatus made by the particular firm originally selected by the deviser? I am inclined to think that the whole medical profession would be glad of some pronouncement from you upon these points. There must be many medical men who, like myself, have devised certain medical or surgical appliances who, after numerous experimental models have been made, either at their own expense or at the expense of the manufacturer, have published full details of their perfected appliances; and who are naturally anxious that if others should do them the honour of trying their instruments they should be supplied with faithful reproductions of the original. It seems to me that such medical men have a right to object to their names being associated with any apparatus or appliance which would not meet with their approval.

In the particular case which I have ventured to put before you not only has my name been freely used without my permission but several of the inhalers with which it is associated are actually constructed upon principles which I have condemned. Moreover, I am inclined to think that a great injustice is being done to Messrs. Barth and Co. who, over a period of several years and at their own expense, have made numerous experimental appliances for me before finally producing satisfactory models. Is it fair or right that another firm should endeavour to supply to the medical profession under cover of my name, used without my consent, apparatus which can only be described as an inaccurate imitation of the original, which original was approved by me? I should be very sorry to see any general movement in favour of medical men who design medical or surgical appliances having the smallest commercial interest in them, either by way of patent or otherwise. Nor do I altogether like the idea of the name of a medical man being associated with an apparatus patented by the manufacturer. Is there no way by which the respective interests of the profession at large, the medical man who designs an apparatus or appliance, and the original makers of such apparatus or appliance may be safeguarded?

I am, Sirs, yours faithfully,
Frederic Hewitt.

London, Sept. 28th, 1906.

_ In the face of such a protest the manufacturers in question will, we are sure, remove the errors from their circular. A very interesting question to medical men has been started by Dr. Hewitt. His apparatus are made for him by a manufacturer selected by himself, who takes pains to reproduce the inventor's ideas, and who has spent money upon the mechanical perfecting of those ideas, the making of trial drawings, trial models, and so on. Such a manufacturer, who is a true coöperator, ought, Dr Hewitt thinks, to obtain some protection or monopoly in the sales.

Dr. Hewitt cannot, of course, patent the instruments himself, and we are sure it is quite unnecessary to say that he receives no pecuniary profit whatever by the sale of his instruments, and does not desire to do so; but he does desire that his instrument maker should receive the legitimate reward for his work. He is also anxious—and naturally, both as medical man and as scientific inventor—that the profession should not purchase under his name instruments only distantly resembling his apparatus. The employment of these instruments, from his point of view would be attended with risk, and he does not intend to be associated in the eyes of medical men with possible accidents.—ED. L.

OPERATIVE TREATMENT IN INSANITY.

To the Editors of THE LANCET.

SIRS,—I have already in several lectures and papers discussed many of the questions put forward by Dr. C. Mercier in his letter in THE LANCET of Sept. 22nd, p. 831, and perhaps Dr. Mercier may remember (for he was present) that at the meeting of the British Medical Association at Bournemouth I placed the question of the justifiability of trephining in general paralysis before the psychological branch, when, on the motion of the late Dr. Hack Tuke, it received the stamp of permissible approbation. What Dr. Mercier describes as a result of the operation—"a permanent gap in the brain-pan"—is a forcible way of stating what does not occur, at least *in my experience*. I have never seen such a "gap" as he imagines; indeed, the hole made by the trephine instrument is eventually firmly sealed and the patient is quite protected from liability to injury. As to what may be seen of the condition of the brain and membranes after the removal of the bone much of course depends upon the extent to which the operation is carried. I can only say that when the skull opening has been free, I have seen, especially after incision of the dura mater, conditions of membrane which were indicative of congestion, inflammation, and pressure, and, if necessary, corroborative evidence on this point could be given by the surgeons who actually performed the operations. As to Dr. Mercier's demand for "evidence of increased cranial pressure in insanity," there was certainly plenty of evidence in some of the cases operated upon, for when the bone was removed the parts of the brain and membranes rose up into the hole in the form of a tense tumour; indeed, I remember particularly that in one case there was no pulsation of the brain to be noticed until after the dura mater had been opened and the fluid had drained away, whereupon pulsation returned.

Mr. Harrison Cripps was so persuaded of the absolute presence of pressure in some (not all) of the cases upon which he operated that he proposed a large removal of bone and subsequent drainage by placing a tube between the cavity of the arachnoid and the outer skin, and that this mode of drainage was possible was proved by one case in which from a tube so placed drainage of cerebro-spinal fluid went on for a considerable number of hours. I have elsewhere given reasons for thinking that the timely removal of pressure would prevent the "swollen nerve cells and disintegration of fibres" of which Dr. Mercier speaks, and as to the preference to be given to lumbar puncture I would readily yield because the principle being allowed the operation is more simple and not so expensive, though lumbar puncture would not satisfy in every case the conditions for which I have urged the intervention of the surgeon. In a paper read a little time since before the Medico-Psychological Association I mentioned cases where there was reason to believe that the delusions were the result of hallucinations arising from disease or derangement of the sensory centres and early operation was discussed with the view of examining the particular centre involved and if possible of applying local remedies to it. It afterwards appeared that I had been anticipated in this recommendation by a prominent surgeon in Liverpool who, in one of the medical journals (I think), gave the result of his work. I have at this moment under observation a lady in whom the delusions which she exhibits appear distinctly traceable to hallucinations of hearing and the advisability of exposing the particular brain tract supposed to be involved is under consideration, there being many reasons for thinking that a primary lesion is to be found there.

Surgical operation in insanity is not likely to become general for several reasons; the friends of patients are opposed to what seems to them a formidable remedy, the services of an expert are required and the fees are large, whilst in the case of pauper patients the special surgical skill and the appliances are not always accessible, but that there are occasions when direct contact with the brain is the only true method of dealing with the disease has passed beyond the limit of speculation and is, I believe, a truth which may be accepted. I have seen not only relief and (probably) prolongation of life from the selected recourse to it, but I have seen, and have reported, cure due to the relief afforded by operation.

By your courtesy I am very glad to have this opportunity of replying in some measure to Dr. Mercier's very reasonable inquiries and also of bringing forward the discussion of a procedure which has been largely adopted in Germany and which is, I think, worthy of more consideration in this country than has been given hitherto to it. My object in writing an answer to "M.R C S" was not to provoke a discussion with Dr. Mercier but to point out the danger of tying the carotid artery and to explain the manner in which operation might be useful after the failure of other remedies. If "M R.C.S." desires a detailed explanation of the *pros* and *cons* on the whole question of operation in insanity I beg to refer him to some of the chapters in my book "Ex Cathedra." I am, Sirs, yours faithfully,

Harley-street, W., Sept. 25th, 1906. T. CLAYE SHAW.

THE FINANCIAL SIDE OF ARMY HOSPITALS.

To the Editors of THE LANCET.

SIRS,—The reforms of the last 30 years have placed the entire control of our military hospitals in the hands of the officers of the Army Medical Service. The whole responsibility for discipline, medical care, and stock-keeping is now rightly in their hands. One important factor in administrative efficiency is still in the background—I mean a full knowledge of the financial details of the hospitals by the medical officers. This financial side is sure to be fully inquired into in the near future and I desire to invite medical officers to study it thoroughly. In studying finance the cost of structural maintenance can be obtained from the Royal Engineers' Works Department. The pay of officers and staff is easily made out; the cost of rations and supplies comes from the Army Service Corps; the laundry charges—fuel, light, and water expenditure—are easily obtained; the medical department can supply the cost of medicines; charges for stationery would come from H.M. Stationery Office; and gardening charges from the Royal Engineers. The summing-up of these various groups would, I think, fairly cover the charges for maintenance of the institutions. I commend to the attention of all medical officers the forms printed by Waterlow and Sons, Limited, London Wall, London, obtained for a few pence, and made out to meet the demands of the Hospital Sunday Fund as to the expenses of hospitals in civil life. They show the various headings of expenditure and receipts, which latter in the army would be the hospital stoppages paid by the officers and men under treatment in the hospitals. No doubt an army form similar to Messrs. Waterlow's form should be issued officially and the cost per bed per annum formally shown. A just economy is the "conscience" of administration and by mastering the financial side of their responsible duties medical officers would be still more fully qualified on retirement from the army for the secretaryship of hospitals, an appointment to-day in the hands largely of amateurs, but awaiting the coming of the specialist. Until the medical officer knows still more accurately the cost of maintenance per bed per annum his complete knowledge of the institution in his charge will be defective.

A comparative table of cost of army hospitals in England, the colonies, and India should be easily forthcoming and would be interesting outside the confines of the army. The cost per bed of naval hospitals should also be easily obtainable. Even the cost of the Sepoy hospitals in India, so primitive and undeveloped, would be worth inquiring into. They would gain, I have no doubt, first prize for actual cheapness, but cheapness *per se* is not to be desired, it is "cheapness with efficiency." The "stoppage" system of the army is sure in the near future to become the model on which municipal hospitals will recover from patients the cost of their maintenance. When we remember that even up to 1813 the sick of the Coldstream Guards in London were treated individually in their lodgings or rooms and that only in that year was a regimental hospital opened for them we can see what 100 years has done in official hospital evolution. I foresee a very rapid development of the official hospital system in civil life and every contribution to its being more fully understood is to be welcomed. The Army Medical Service, which was the pioneer in producing the all-round medical man who combined the surgeon and the physician in one person and broke down the barriers of sectionalism, is also worth studying in its pioneer work of medical control of medical institutions.

I am, Sirs, yours faithfully,

GEORGE J. H. EVATT,
Surgeon-General.

Junior United Service Club, London,
Sept. 29th, 1906.

SPIROCHÆTÆ IN MICE.

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to a short note on a spirochæta of the mouse by Breinl and Kinghorn of the Liverpool School of Tropical Medicine in THE LANCET of Sept. 8th. This spirochæta is undoubtedly one with which I have been working for some months, since I discovered it in a mouse infected with trypanosoma dimorphon at the Pasteur Institute in March last. I mentioned my discovery to a member of the Liverpool School of Tropical Medicine who was on a visit to the institute. About that time trypanosoma dimorphon was required for work at the Liverpool School of Tropical Medicine and application was made for it to the Pasteur Institute. As I was working there with trypanosoma dimorphon, and had the only strain at the institute, I was asked for an infected mouse. This mouse I afterwards learnt had been sent to Liverpool. It was infected with both trypanosoma dimorphon and the spirochæta, as was the case with all my mice. It was in this mouse that Breinl and Kinghorn found the spirochæta they describe, though they did not know the mouse had come from me. Speaking with Dr. Leiper, who was about to go to Liverpool in August, I asked him to mention the matter of my spirochæta at the Liverpool School of Tropical Medicine, in order to avoid mistake. Dr. Leiper now tells me that the matter was brought up by the member of the school I had met in Paris, and that he (Dr. Leiper) said that my paper was about to go, or had already gone, to press, and that I had determined the spirochæta a new species. As a matter of fact, my paper is appearing in the *Journal of Hygiene*. But for the fact that the subject had been mentioned twice to a member of the Liverpool School of Tropical Medicine I would have published a short note earlier than this, but I considered it unnecessary, concluding that if the spirochæta were discovered in my mouse in Liverpool the fact of my work being known by one of the workers there would have prevented the unfortunate mistake that has occurred. In my paper I have given the name spirochæta muris (*n. sp.*), while Breinl and Kinghorn have anticipated me with the name spirochæta Laverani (*n. sp.*). To me it seems strange that a new spirochæta should have been discovered at the Liverpool School of Tropical Medicine without the fact of my discovery being mentioned when it was known to one of the workers there. It is not usual for an observation of that nature to be made without at least those on the spot hearing of and discussing it.

I am, Sirs, yours faithfully,

C. M. WENYON.

Zoological Institute, Munich, Oct. 1st, 1906.

PNEUMONIA IN ALCOHOLIC SUBJECTS.

To the Editors of THE LANCET.

SIRS,—In the *Daily Telegraph* of Sept. 27th the following report appears :—

> CORONERS' POWERS.
>
> Mr. John Troutbeck, sitting at Lambeth, inquired into the death of John Dawes, aged 42, a cab-driver, lately residing in Clayton-street, Kennington Oval. Horace Booley, deceased's landlord, said the man had been a teetotaler for four years but broke out a fortnight *before* his death. He took to his bed on Friday and witness called in a doctor, who said he was seriously ill and prescribed for him. Death took place on Sunday morning. Witness asked for a certificate but the doctor refused to give one, assigning no reason. He had been paid for attending the patient. The coroner said no doubt the jury were aware that when everything was straightforward it was the duty of a doctor to certify a death and they must assume that the medical man in this case did not feel justified in giving one as he referred the case to the coroner. He, however, subsequently refused to give his officer any information whatever and there was no legal *obligation* on him to do so but he refused even to say what he had attended the man for. Thus he was standing strictly *on his legal rights*. In the present state of the law a coroner could *not* call upon a doctor to give him information, as he could not pay him for it, and it was a very undesirable position. This was one of the *great reforms* in the laws relating to death certification which was urgently *needed*—that a coroner should be able to ask for a report and pay *for it*. *Dr. Freyberger* said death was due to heart failure accelerated by alcoholic *pneumonia*. There would be no difficulty in diagnosing such a case.

In the expression of opinion that "there would be no difficulty in diagnosing" a case of "alcoholic pneumonia" Dr. Freyberger joins issue with no less an authority than Professor Osler, Regius Professor of medicine at Oxford, as the latter writes :—

> *Pneumonia in alcoholic subjects.*—The *onset* is *insidious*, the symptoms masked, the fever slight, and the clinical *picture usually* that of the delirium tremens. The thermometer alone may indicate the presence of an acute disease. *Often* the local condition *is overlooked* as the patient makes no complaint of pain, and there may be very little shortness of breath, no cough, and *no* sputum. (The Principles and *Practice of* Medicine, by William Osler, M.D., F.R.S., F.R.C.P., sixth edition, p. 183.)

It would appear from the newspaper report that the medical man called in to see the case only saw the patient *once*. *When seen the deceased* may have appeared to be suffering from delirium tremens the result of the drinking bout referred to in the report and may have presented no symptoms pointing to pneumonia. The medical man may therefore have been surprised to hear of his death and was apparently quite justified in refusing a death certificate. Dr. Freyberger, if correctly reported, appears in making his statement to have overlooked the fact that it is one thing to make a diagnosis at the bedside and another to do so in the post-mortem room.

I am, Sirs, yours faithfully,

R. J. BLACKHAM, D.P.H. R.C.P.S. Lond.,
Captain, Royal Army Medical Corps

Devonport, Sept. 29th, 1906.

⁂ We refer in another column to this case under the heading of "Medicine and the Law."—ED. L.

GOAT'S MILK FOR INFANTS.

To the Editors of THE LANCET.

SIRS,—My personal experience of the use of goat's milk as a food for infants is perhaps worthy of record. Some 12 years ago, having the opportunity of utilising a healthy young goat which had recently kidded, I kept a baby upon goat's milk during the first eight months of its life. The infant was three weeks old when (its natural food having then failed) I put it upon the goat's milk. This was given at first with an equal quantity of water and proved so easily digested that the dilution was rapidly reduced and the milk was given undiluted after a few weeks. The child was fed exclusively upon goat's milk for six months and a half —i.e., until it was over seven months old. Throughout this period the growth of the child was satisfactory, its general condition was very good, and it remained entirely free from those digestive troubles which so commonly plague the bottle-fed baby.

It is surprising that at this day, and in spite of the educational work carried on for so many years by the British Goat Society and others, there should be any hesitation in admitting the superiority of goat's milk over cow's milk as a food for infants. The milk is primarily more digestible because its casein forms only a flocculent curd and the infant does not suffer from the tendency to accumulation of hard cheesy masses, as with cow's milk. The goat is singularly resistant to tuberculosis, an important consideration in view of the very wide dissemination of tubercle among dairy cattle. The nourishing power of the milk of the goat is just as high as that of the milk of the cow and it is quite efficient as the sole food of an infant up to the age of from six to eight months. The sole objection to the employment of goat's milk is the difficulty and expense usually entailed in obtaining it from a reliable source at the moment when its use would be of value. It is not the case that there is any unpleasant or peculiar smell or taste attached to goat's milk, provided that the goat is kept under cleanly conditions and apart from any association with the male of its species. It is, I believe, a fact that when the he-goat is allowed to run with a herd the females acquire, for the time, something of the characteristic smell of the male and that their milk becomes similarly affected. In the case to which I have referred above there was never any peculiarity of smell or taste about the milk employed and it was willingly consumed by others besides the baby. I have found asses' milk a very excellent food for delicate infants during the first few weeks. Owing, however, to its poverty in cream this milk cannot safely be used as sole nourishment after the first two or three months of life.

I am, Sirs, yours faithfully,

Seville-street, S.W., Oct. 2nd, 1906. JOHN CAHILL.

THE CORRECTION OF DEATH-RATES.

To the Editors of THE LANCET.

SIRS,—In continuance of my note on this subject in your issue of August 25th, I should perhaps more clearly explain that the essence of my proposal is to take a "Standard Million" (or, at any rate, a miniature of this standard) and to apply the local rates at the several age periods in order to obtain the corrected death-rate for a town or district. This system avoids the errors arising from differences in age and sex constitution. It is a better standard to work upon than the average death-rate of the country for ten years, because amongst other things it is applicable to countries where the census figures may be fairly accurate while the death registration of the country taken as a whole is very defective. The comparative mortality figure is obtained by applying local rates (at the several age periods) to the standard million without further correction, and a local general rate is thus found which is readily comparable with others similarly calculated or with that for the country at large. In all cases it is obvious that crude death-rates must be partially corrected for deaths occurring in, or belonging to, other districts.

I have previously shown that the usual method applied to the city of Calcutta for the year 1904 gave a corrected death-rate of 36·6 as against the recorded rate of 32·2, while the "population standard" further corrects this and makes the rate 38·7 per 1000. It is fairly obvious that the mere numbers of persons at the several age periods should not be allowed to determine the corrected general rate for a town or district. What we want is the rates at the several age periods and it matters nothing how many persons belong to a particular age group. The differences in the death-rates at the several age periods and in the two sexes will alone determine the result, and we shall not obtain a low general rate with a high death-rate at nearly all ages as was found for Calcutta in 1904. A standard million is applicable as a basis for comparison even if the components of a population depart very considerably from it, because we are dealing with rates at age periods and not with the varying numbers of the population at the several age groups I would go even further and say that it is possible to adopt an artificial million as a standard which would be applicable for the comparison of death-rates all over the world. We merely require a standard population and we can apply the local rates and obtain our correction accordingly.—I am, Sirs, yours faithfully,

T. FREDERICK PEARSE, F.R.C.S. Eng., M.R.C.P. Lond.,
D.P.H. Camb.,
Acting Health Officer of Calcutta.

WHAT IS A SPECIALIST?

To the Editors of THE LANCET.

SIRS,—You have lately opened your columns to a discussion of the question "What is a Specialist?" It seems to me there is room also for a recognised definition of the term "consultant." I have always understood that one, if not the main, distinguishing characteristic of the consultant was that he did not treat patients at their own homes, and did not even visit them there except in conjunction with a medical man in charge of the case, or unless an arrangement had been made with the latter *for each visit* of the consultant. I certainly should not apply the title to one whose practice differed materially from that above indicated. Am I unduly restrictive? I am, Sirs, yours faithfully,

London, Oct. 2nd, 1906. STICKLER.

THE MILAN INTERNATIONAL EXHIBITION.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

Milan, Sept. 27th.

NOW that the weather is becoming somewhat cooler, this is the most favourable moment for the inhabitants of Northern Europe to visit the Milan Exhibition. A pretext for a journey to Italy must ever be welcome to the lovers of nature, art, archæology, and history. Nor can the man of science fail to be interested in such ancient seats of learning as those which abound in Italy. But this year there is the extra attraction of the Milan Exhibition. The object of the exhibition is to celebrate the piercing of the Simplon and the opening of this new railroad through the Alps. Thus at the principal entrance of the exhibition there is a reproduction of the entrance of the tunnel and within there is a very exact imitation of the rocks and the work of piercing a way through the mountain. Here can be seen not only the way in which the scaffolding was built to hold up the rock and to prevent fragments from falling but also the system of pumping air into the tunnel is shown in full working order. As a natural sequence, to celebrate this great undertaking means of intercommunication form the chief feature of the exhibition. Then, not to lose the historical sequence, there is a retrospective exhibit beginning with old papyri, showing how the ancient Egyptians rowed in boats and drove in chariots. Then follow models of Roman galleys, of the ships with which Columbus discovered America, down to the more modern diligences, and finally, the carriage which was built for General Virginio Bordino in 1836. The carriage has the ordinary coachman's seat and the means of harnessing two or more horses. Behind the rumble is of unusual size; it is painted to look like basket work. But for the protrusion of a funnel some three feet high it might be considered as a convenience for carrying a large quantity of luggage. It is only on closer examination that the visitor perceives that the rumble holds a steam-engine. Thus we find a carriage where horses and steam are employed simultaneously and this truly typifies the period of transition. The corporation of London and the British Institute of Engineers also have sent interesting objects showing the transition between stage coaches and railways. But, and however interesting this may be, the vast exhibits of the modern methods of travel is of greater practical purpose. These will be found in the other part of the exhibition, for the exhibition is divided in two halves which are situated at some considerable distance one from the other.

The first and more picturesque half is near the centre of the town in the park immediately behind the Castello Sforzesco, from which fortress and palace the Milanese have been governed, and frequently tyrannised, since the fourteenth century. This is known as the exhibition *del Parco*. The other half is that of the Piazza d'Armi and is much farther off but electric tramcars go to both places for the modest charge of 1*d*. It is at the Piazza d'Armi that the technician will find more to study. On leaving the tramcar and penetrating by the nearest and very unpretentious entrance I found immediately to my left the vast exhibits of the Italian Touring Club. There is a large saloon with diagrams on the walls giving statistics which show the extension of the action of this association and the numbers of tours made under its auspices. The beneficent influence thus exercised is well exemplified by the adjoining exhibits of hotel furniture. Not only is the old germ-retaining style of furniture, of curtains, carpets, stuffed chairs, and wooden beds utterly abjured but in some cases these are exclusively of metal. Sheets of metal, painted and enamelled, constitute the sides of cupboards and metal tubing the legs of chairs and tables. This must be cold and hard and seems somewhat of an exaggeration. But the wood that is used should be, and very generally is, rendered non-porous and so glazed or enamelled as to be washed without injury. The Touring Club in Italy and in France, by refusing to recommend hotels that do not abolish the old methods of furnishing rooms where every facility was offered for the retention and culture of such germs as those of tuberculosis, has undoubtedly rendered great service and reduced the risk which travellers incur when they frequent hotels.

Close to the Touring Club an oblong building is devoted to French decorative arts, and at one of its extremities there are the ever-interesting exhibits of the city of Paris. These I have described on many previous occasions, notably last year at the Liége international exhibition, where I think they were better arranged and more numerous. Here there is a central saloon with a table holding commemorative medals of notable events in the civic history of Paris—the opening of the great central markets or *halles*, of the councils of arbitration or *prud'hommes*, the organisation of poor relief and the employment of balloons in the defence of Paris during the great siege of 1870. Around are the work, sometimes fine art work, of the technical schools, statistics as to the increase of the ambulance services, and great books of reference and albums of photographs showing the notable public works that have been undertaken and how the different services, including those of the hospitals, are carried out.

A square building in the centre of the piazza is devoted to the marine exhibits and on entering Krupp guns of colossal dimensions proclaim Germany's determination to become a naval power. But what was more to my purpose there is a life size reproduction of a hospital on board a German man-of-war. Here there are a dispensary and operating cabin and the ward where the patients are placed in bunks suspended by chains. These bunks would sway from side to side, so that the patients would not feel the rolling of the ship but they would still be affected by the pitching. Then there are a bathroom, the douche arrangements, and lavatories. In this manner some idea can be obtained of the sanitary arrangements on board a German man-of-war. The mercantile navy has also a great display. For instance, the Norddeutscher Lloyd give a large model of their landing-stage at Hoboken, New York, and models of their most celebrated ships. Finally, there is a picture of the *Kaiser Wilhelm II.* deposited across the top of the piazza in front of the Milan Cathedral showing that it is longer than the square is broad.

The Italian Navy has likewise constructed a life-sized reproduction of an operating room on board an Italian man-of-war. The bunks, suspended by chains to the deck above, also swing to save the patient from the rolling of the ship. There are numerous photographs on the wall illustrating how operations can be done in these cabins and there is a disinfecting stove placed close to an isolation ward between decks. In the latter the bunks are hung in the middle of the cabin and do not touch the sides. All the surfaces are non-absorbent and washable. This isolation ward or cabin is well worth seeing and indicates a real understanding of what is necessary. The Italians have also some ship's furniture made with asbestos cardboard that can easily be cleaned and is incombustible. Also there are operating chairs on wheels that could be taken to a patient on deck instead of carrying the sufferer to the operation cabin. Fittings and poles are likewise at hand by which an ordinary deck chair can be converted into a portable stretcher. But the most ingenious devices of this description are those shown by the Japanese navy. Canvas mainly is employed and the idea is so to envelop the patient that he can be suspended by a rope and let down into the ship like a bale of goods. There is one piece of canvas, stiffened by split bamboo, that would fold over a man and keep him absolutely stiff and straight, and he could then be let down in any manner to the decks below.

In the face of these very graphic and instructive exhibits it is a pity that in the British section there is little else shown than models of ships exactly similar to those that can be seen any day in the windows of the shipping offices in Trafalgar square and Cockspur-street. The Navigazione Generale Italiana, for instance, has a separate building all to itself. On entering there are the usual models of ships and maps indicating the routes which they follow. But there is a life-sized model of the most important portion of the *Re Vittorio*, one of its largest Atlantic passenger ships. Visitors ascend on the bridge deck and penetrate the music room where the tapestry furniture is of gold and white, Louis XV. style, and in every respect fit for a royal palace. The dining-saloon can also be seen and some of the state cabins. But it is likewise possible to see the bath rooms and the closets and thus to study the sanitation of these luxuriously furnished and artistically decorated ships. Finally, there is the Marconi wireless telegraph cabin where news is received even in mid-ocean. Short of actually going to sea it is impossible to imagine a more realistic representation of the accommodation afforded to passengers on these ships.

Next to this building is another structure devoted to automobiles, while behind it a reproduction of ancient Flemish architecture contains Belgian exhibits ranging from old tapestry to modern diamond cutting. Then there is a very fine model of the port of Antwerp which, however, I have already seen at one or two exhibitions. A point of interest for those who are striving in England to find work for the unemployed by reclaiming land is the exhibit of what is done in Belgium to consolidate, by planting, the sandy dunes on the sea-shore and for the reclaiming of marsh land. Outside there is a beautiful Belgian garden with a temperance bar. As usual, there is nothing worth drinking at this bar and it is left in strict solitude by the passing crowds of visitors. When will the temperance party understand that their first care should be devoted to providing such light refreshments as will be agreeable and attractive, even though they do not contain alcohol? This bar seems to have been erected to discredit the cause of total abstinence from alcohol.

Close by there is a pavilion of exhibits showing the large part played by the Italian races in colonising different countries of the world. This comprises photographs of public works executed, and institutions founded, by Italians abroad, whether it be in Russia, in different parts of Europe, or in America Among these is the Italian Hospital in Queen square, London. Then I noted models of the out-of-doors Italian schools in the canton of Ticino and details relating to the organisation of help for distressed or sick Italians in all parts of the world. The visitor wanders from building to building, for there is no one great, general, dominating structure. The largest place is that which has the less architectural pretension. It is, in fact, but a vast expanse of roofing which covers locomotive engines and railway carriages of different countries and companies. The next largest building is that where various industries, notably printing, are carried on in full view of the visitors. Another block contains agricultural exhibits, another the products of the South American Republics and so forth. One of these separate buildings is devoted to hygiene and another is entitled "*Ministero Interno: Santa Pubblica.*" These deserve to be described in detail.

(To be continued.)

LONDON FIRE BRIGADE.—Another handy motor fire appliance has just been put into service in the London fire brigade. The machine, which has been specially constructed to meet the requirements of Captain Hamilton, the chief officer, is of Merryweather's latest type and is fitted with a 30 horse power four-cylinder motor. It comprises a hose tender and reel, carrying about 1200 feet of hose for use with street hydrants, a full set of gear, a telescopic ladder, and a pair of hook ladders for life saving. The machine will carry eight men, can turn out instantly on an alarm, and keep up an average speed of 20 miles per hour.

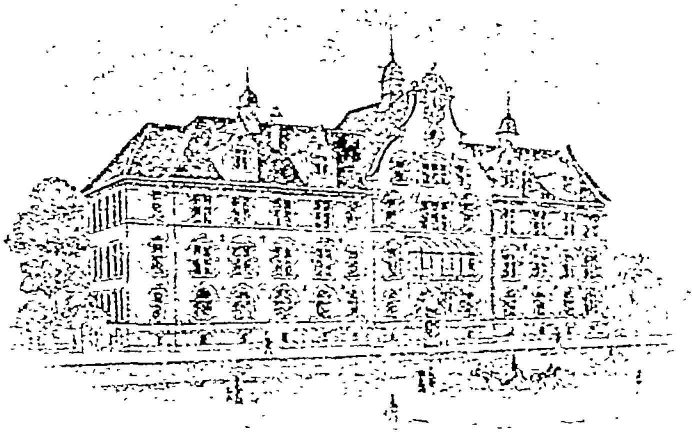
FIFESHIRE MEDICAL ASSOCIATION.—The twenty-fifth annual general meeting of the Fifeshire Medical Association was held at Cupar on Sept. 28th, Dr. Norman Walker, Edinburgh, the President, being in the chair. The principal item on the programme was an address by Dr. W. Osler, Regius Professor of Medicine in the University of Oxford. The subject dealt with was pneumonia, which, he said, still remained resistant to the best efforts which had been made against it. He exhibited a number of charts, showing among other things, how the disease was affected by seasonal changes. December, January, February, and March were the months in which it occurred with the greatest frequency, and from careful statistics supplied to him it appeared that in all large hospitals and institutions the mortality ranked as high as from 25 to 30 per cent. He spoke of the difficulty of obtaining definite information about the pneumococcus as it was a germ that did not "play the game" like other germs and did not bear a reputable character and he earnestly urged medical practitioners to give to each other the benefits of their experience in dealing with it. The present methods were loose and haphazard; but just as typhoid fever had been successfully fought and tuberculosis was diminishing, so he believed many in the room would live to see pneumonia cured and prevented

A VISIT TO PROFESSOR CZERNY'S CANCER INSTITUTE.

(BY A SPECIAL CORRESPONDENT.)

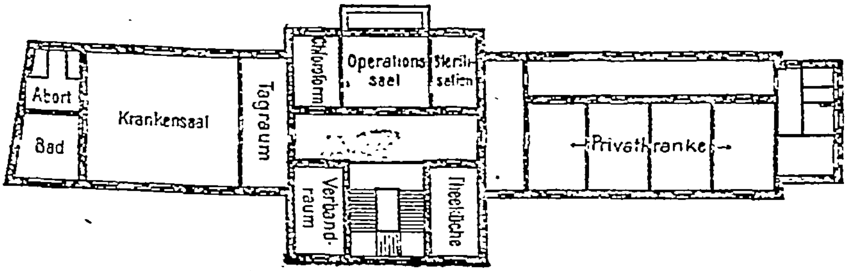
Professor Vincent Czerny, whose name is well known to all surgeons through his work on intestinal, vaginal, and plastic surgery, after holding the post of professor of surgery in the University of Heidelberg for many years, has resigned his post and is giving effect to an old resolution to devote the remainder of his life to the study of cancer. He vacated his professorial chair on Oct. 1st to become director of the New Cancer Institute (Samariterhaus) at Heidelberg where the hospital and laboratories for cancer research are closely connected. The institution is well worth a visit. Professor Czerny has not only carefully worked out every detail of its construction and furnishing, basing the details upon his great experience of the clinical aspect of cancer and upon his wide knowledge of the experimental and scientific side of surgery, but he has most generously contributed to the pecuniary resources of the institute and so helped in a practical way to perfect its equipment. On Monday, Sept. 24th, the day before the opening of the meeting of the First International Congress for the Study of Cancer, Professor Czerny, accompanied by his colleagues, conducted a party of visitors around the institution, which consists of a hospital and a block for experimental research, and carefully explained the details of its construction and arrangement to them. Among this party were Professor Leyden (Berlin), Dr. J. Barker (San Francisco), Dr. Bainbridge (New York), Dr. E. F. Bashford, director of the Laboratory of the Cancer Research Fund, London, Dr. W. S. Lazarus-Barlow, director of the Cancer Research Laboratory of the Middlesex Hospital,

FIG. 1.



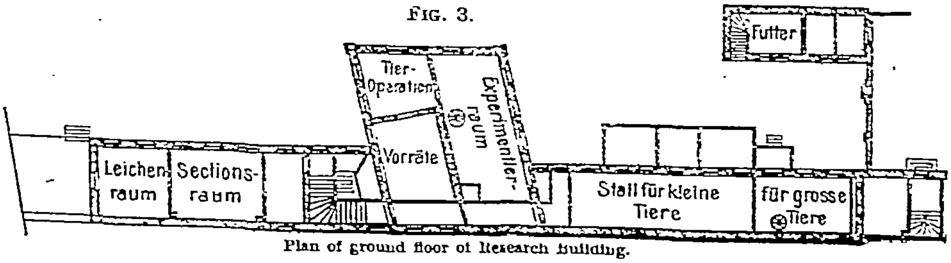
Façade of Hospital.

FIG. 2.



Plan of first floor of the hospital.

FIG. 3.



Plan of ground floor of Research Building.

and Dr. A. Paine, Dr. D. J. Morgan, Mr. F. B. Jessett, Mr. E. C. Ryall, Mr. Cecil Leaf, Mr. W. E. Miles, Mr. R. H. J. Swan, and Mr. J. Howell Evans of the staff of the London Cancer Hospital.

The hospital is thoroughly well arranged. The department for histological and pathological investigation is in the same building as that in which the clinical and operative work will be carried on. (Figs. 2 and 3.) The building proper consists of a west and an east wing on either side of a central block. The west wing is occupied partly by the free patients and contains also accommodation for some of the administrative arrangements. The east wing is set apart for the director's private rooms, the pathological laboratory, and the paying patients of the first and second class, who pay respectively 8*s*. 6*d*. and 6*s*. 6*d*. per diem. Every detail of construction has been carefully considered from the point of view of the comfort of the patient, of his treatment in accordance with modern methods, and of the durability of the fabric. In the basement there have been installed Roentgen ray apparatus and its accessories. The total cost per annum of the management of the hospital, it is estimated, will be £7000, or, roughly speaking, £150 per bed.

FIG. 4.

Professor Vincent Czerny.

Adjoining the hospital, and running back at right angles from the west wing, is the large building set aside for experimental research. The work here is divided into two sections: (1) the section of experimental zoology, under the supervision of Professor von Dungern; and (2) the section of experimental investigations among the protozoa, under the supervision of Professor von Wassilewski.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Opening of the University Medical Department.

IT is the custom in Birmingham to open the winter session in the medical department by holding a conversazione to which the medical men and dentists of the city and district and the past and present students are invited. The custom was followed on Thursday last with great success, for in spite of the inclement weather, which unfortunately broke upon us at a most inconvenient time, about 500 people took the opportunity to view the new pathological department and the numerous excellent exhibits which were displayed both in that and in other sections of the medical buildings. Expressions of pleasure and appreciation were heard in all directions but admiration and enjoyment of the scientific displays did not prevent the majority of the guests being present either at one or both of the two delightful concerts in which Mr. Dalton Baker and Mr. G. H. Manton took part. The guests were received by Professor H. Gilbert Barling (the dean), Professor Arthur Robinson (the sub-dean), Professor A. H. Carter, and Mr. John Humphreys (honorary secretary of the dental department) in the Founders' Room of the University Club. They then passed either into other parts of the fine club buildings or through the short corridor of connexion into the medical school buildings, where the scientific preparations, specimens, and instruments were on view and where the concert was given in the large theatre. I understand that there is every prospect of an excellent session and the number of entries of new students on the first day alone exceeded the total entries of last year. This is very satisfactory, for the school is thoroughly equipped, the hospitals have abundance of cases, and opportunities and facilities are offered for a very large number of students.

Health of the City.

The epidemic of diarrhœa associated with the recent hot weather is dying down and the death-rate has fallen in the past three weeks from 25·9 per 1000 to 17 per 1000. The zymotic death-rate is gradually decreasing to the low point which we usually associate with our normal condition and there can be little doubt that with the cooler weather of autumn we shall again attain to the low death-rate to which we have been accustomed for a considerable time. Our health authorities may congratulate themselves on having passed through the critical time of the last few weeks with better results than could possibly have been hoped for a few years ago but they are still not satisfied and they have every reason to believe that their vigorous efforts, aided by those of the housing committee, will be productive of much better results in the future. One of the most baffling diseases with which they have to contend is pulmonary tuberculosis but even with regard to that the outlook is getting brighter. The system of voluntary notification is working well and the medical officer of health is urging that a sanatorium should be established in which members of the working classes could be regularly treated in the most approved manner. Probably, however, the best results would be obtained if compulsory notification of early cases was insisted upon and if school children were regularly examined and those inclined to any form of tuberculosis were weeded out and specially treated as Dr. Lyster suggested in the lecture which he delivered a short time ago at the Midland Institute.

Diminution of Infantile Mortality at Walsall.

It is very satisfactory to note in a recent report of the medical officer of Walsall (Dr. J. S. Wilson) that the deaths of children from epidemic diarrhœa have fallen to 48 in a given period as contrasted with 79 in a similar period of last year, and it is still more satisfactory to know that Dr. Wilson attributes this decrease to the special attention which had been paid by the sanitary inspectors to the courts of the town. It is to be hoped that similar increased attention will be paid to the courts of other towns, for the loss of infant life is still far too great in our district, although it has diminished very considerably of late years.

The Water-supply.

It is in dry periods such as that through which we have passed that the wisdom of our local authorities who insisted upon securing a satisfactory source of water-supply in Wales is most appreciated. The grumbling over the cost of the scheme, which was both loud and long, must surely cease when the grumblers see how great are the advantages which our district enjoys in a time of drought which has caused, and is causing, serious trouble to other less fortunate areas. In spite of the dry weather the supply of water in our reservoirs remains satisfactory and indeed it is really better than last year, whilst we are assured that the supply would not have been interfered with had the drought continued for a further period of three months. We have grown so accustomed to a good and plentiful supply of water that it is doubtful if those who grumble at the cost really understand all that a good supply means in association with health and comfort, and though they might be prepared to sacrifice some comfort for less expenditure still it is not probable that they would be willing to sacrifice the lives which would necessarily be lost if we suffered from any shortage of water. A good and plentiful supply of water has much to do with the reduction of the death-rate and very few would care to let cost stand in the way of that reduction. The difficulty, however, lies in making many people understand the close association between good and sufficient water-supply and health.

Open Spaces for the City.

It was only in June last that the Open Spaces Association was definitely formed and already it has offered to the corporation four pieces of ground. Two of the spaces have been given to the association, one, about half an acre in extent, in Coventry-street, by Sir Thomas Gooch, and the other, about five acres, in Somerville-road, Small Heath, by Mr. O. W. Digby. The third space has been purchased by the association and it is now negotiating the purchase of the fourth. The total value of the land at the present moment is about £8000 and it is offered to the corporation for use as open spaces and playgrounds. This is a most valuable offer, for which the donors deserve the thanks of the city, and it is to be hoped that the baths and park committee will see its way to recommend to the council the acceptance of the offer and the fencing and maintenance of the spaces. The cost to the city cannot be large and the gain of permanent air spaces is incalculably great. The action of Sir Thomas Gooch and Mr. Digby is an example to other landowners and the spaces which they have offered will remain as permanent records, much more useful than any monuments, of a public spirit which deserves emulation.

Retirement of Dr. J. D. Scurrah.

For 32 years Dr. Scurrah has been honorary surgeon of the Edgbaston General Institution for the Blind. He has now decided to retire from the active work and the committee of the institution in accepting his resignation expressed its regret at his retirement and its high appreciation of the very excellent work which he had done. The committee also expressed the hope that Dr. Scurrah would accept the office of honorary consulting surgeon and that in that capacity he would still continue his connexion with the institution for many years.

Oct. 2nd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Civic Luncheon to Professor Ronald Ross, Professor Rubert W. Boyce, and Dr. J. L. Todd.

A COMPLIMENTARY luncheon to Professor Ronald Ross, C.B., F.R.S., Professor Rubert W. Boyce, F.R.S., and Dr. J. L. Todd, all of the Liverpool School of Tropical Medicine (in recognition of the decorations recently conferred on them by the King of the Belgians for services in research into tropical diseases at the Liverpool School of Tropical Medicine), was given by the Lord Mayor of Liverpool, at the town hall, on Oct. 1st. Amongst the guests were Viscount Mountmorres, Sir Alfred Jones, K.C.M.G., the Lord Provost of Edinburgh, Sir James Barr, and others. After the loyal toasts had been honoured the Lord Mayor proposed the health of "Our Guests." He said that he had asked those three gentlemen to accept the hospitality of the town hall because he considered that honour should be paid to those to whom honour was due. Under the auspices of the Liverpool School of Tropical Medicine Professor Ross, Professor Boyce, and Dr. Todd had undertaken the investigation of sleeping sickness, towards which work the King of the Belgians contributed a sum of £4000. Having been satisfied with the work which was so effectively done and of such great value His Majesty conferred upon each of those gentlemen a decoration of a personal character. He was sorry that Professor Boyce was absent owing to illness. He had hoped to have attended this complimentary luncheon but he was unable to travel from Harrogate. The Liverpool Tropical School had only been in operation since 1899 and by 1905 £48,200 had been expended. Never was money more profitably spent than this sum. Sixteen expeditions had been sent out to the tropics. About 900 cases of various tropical diseases had been treated at the special ward in the Royal Southern Hospital. They were honoured with the presence of the Belgian Consul and through him he begged to assure His Majesty the King of the Belgians of Liverpool's warm appreciation of his gracious act. Sir Alfred Jones, in cordially seconding the toast, read a translation of a letter from the Secretary-General, Congo Free State, dated Brussels, Sept. 28th. It stated: "You made reference to the fact that if His Majesty Leopold II. would consent to make an annual subscription of £1000 for a period of five years, the Liverpool School of Tropical Medicine would be relieved of pecuniary difficulties. I have the honour to inform you that His Majesty the King, responding to this appeal, has authorised me to place at your disposal a sum of £1000. We hope that this subscription will not be the last which might be made to the institute." Professor Ross had just received the honorary degree of doctor of law at the University of Aberdeen, while in 1902 he was awarded the Nobel prize for his discoveries in malaria. Dr. Todd had participated in several very important expeditions of the Liverpool school and had been identified with the late Dr. Dutton in carrying out the extensive study of sleeping sickness. Professor Boyce was the dean of the Tropical School of Medicine. A letter was read from him stating that the honour to himself and his colleagues was really paid to the Liverpool School of Tropical Medicine. Professor Ross, in response, remarked that he had been previously honoured at the town hall during the mayoralty of Mr. W. W. Rutherford, M.P. He should not only like to see all tropical diseases banished but likewise all preventable diseases at home, such as measles, scarlet fever, and chicken-pox. He believed that by the discovery of the causes such diseases could all be wiped out. Dr. Todd also acknowledged the toast, and drew attention to the proposed memorial to the late Dr. Dutton who had left such a glorious example of self-sacrifice. The Belgian Consul expressed, in the name of King Leopold, his congratulations on the success of the Liverpool School of Tropical Medicine which was known all over the world.

The Infirmary for Children.

The funds necessary for the completion of the new infirmary for children are being gradually accumulated. In response to repeated appeals from the committee £5450 have already been subscribed towards the requisite £6000; a sum of £550 is still required before the city council will make its promised grant which is conditional on the balance being raised by the public. There ought to be no difficulty now in raising the required amount.

Death from Anthrax in Liverpool.

The deputy coroner conducted an inquiry on Sept. 27th into the circumstances attending the death of a farm labourer at Norley Farm, near Warrington. The evidence disclosed an extraordinary case of anthrax. It appeared that the deceased and another farm labourer went to bring in some cattle on Sept. 11th. Suddenly one of the bullocks became unwell and as it was impossible to move it to the farm the beast was slaughtered and then dressed by a local butcher. The next day the carcass was despatched to the Manchester meat market where it was seized by the inspectors who found traces of anthrax. It was at once destroyed and at the farm everything that had come in contact with the infected animal was disinfected. Meanwhile the deceased and his companion had developed swellings on their arms and in accordance with medical advice were conveyed to the Liverpool Royal Infirmary. The deceased became rapidly worse and died on Sept. 25th. The medical evidence was to the effect that death was due to anthrax. The jury returned a verdict in accordance with the medical evidence, adding that in their opinion sufficient care had not been taken in the disposal of the carcass. They considered that some action ought to be taken in the matter and that the head constable of the county should be communicated with.

Oct. 2nd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Police Surgeons in Cardiff.

DURING the past few years there have been three police surgeons in Cardiff, each one having allotted to him a separate police division. The chief constable has now advised that there should be a fourth surgeon appointed who should act as chief surgeon and include in his duties the examination of all recruits for the constabulary force and fire brigade, the examination and reporting upon officers and constables recommended for temporary pensions in case of incapacity, delivering of first-aid lectures, and the giving a second opinion when required in the case of death in suspicious circumstances. The watch committee has decided to carry out the suggestions of the chief constable, except that one of the divisional surgeons will be appointed chief and hold the divisional appointment at the same time. It is to be regretted that the committee also assented to a proposal of the chief constable that the surgeons should be appointed year by year and not as at present without reference to time but dismissable at three months' notice. A medical member of the watch committee protested very strongly against this insecurity of tenure of office and it certainly ought not to be permitted unless very good reasons are given for doing so. It would be interesting to know whether the chief constable himself would feel happy and comfortable in his work if he came up for re-election annually.

Deaths of Children from Overlying.

The Swansea coroner was quite justified in the remarks he made at an inquest recently held in Swansea upon a child four months old who was found dead in bed on a Sunday morning. The same bed was occupied by the child's father, mother, and another child, and the medical man who was called to see the infant's body said that the left side of the face was much discoloured, the tongue protruded, and the hands were clenched. There was no doubt that the infant had died from suffocation. The coroner's farewell words to the mother were: "You can go home and tell the neighbours in your street that you suffocated your own child through your own carelessness."

Swansea Refuse Destructor.

The sanitary authorities in South Wales have not been so eager as those in the North of England to get rid of household refuse by burning. Up to the present time there are only three destructors in South Wales—one in Barry, one in the Rhondda, and the third in Swansea. That in Swansea has now been in operation for two years and a recent report of the borough surveyor states that it has been doing its work well without the slightest nuisance being caused. An average of 67 tons of refuse is dealt with daily and the cost per ton, excluding capital charges, is just under 2*s.*

Typhoid Fever in Monmouthshire.

There appears to be a decrease in the number of cases of typhoid fever in Pontypool and the adjoining districts. Up to the end of last week there had been 103 cases in Pontypool, 42 in Panteg, and 18 in Abersychan. The district councils concerned have decided to purchase a steam disinfector for the joint use of the districts. The guardians of the Pontypool union when applied to refused to allow their disinfector to be used for articles outside the workhouse. At the last meeting of the Pontypool council it was stated that already the epidemic had cost £100, a sum about equal to a rate of 1*d.* in the £. All the Pontypool patients are being nursed in their own homes and two district nurses have been provided by the district council. In his last report the medical officer of health (Mr. S. B. Mason) alludes to the indifference of householders in carrying out the most ordinary precautions. They themselves are constantly visiting persons ill with the disease and allow their children to do so as well and very few housewives can be persuaded to boil the drinking water. Dr. R. W. Johnstone, one of the medical inspectors of the Local Government Board, has been visiting the district on behalf of the Board.

Death of Mr. R. Thomason, M.R.C.S. Eng., L.S.A.

Mr. Richard Thomason, who died at Hereford on Sept. 24th, was the senior member of the profession in the city where he had carried on an extensive practice since 1855. He was born in Manchester and educated in Shropshire. In 1853 he obtained the Diploma of the Society of Apothecaries and in the following year that of the Royal College of Surgeons of England. He succeeded Mr. Thomas Camm in 1867 as surgeon to the Herefordshire General Hospital and after holding office for 30 years was elected a consulting surgeon to that institution. He was for many years one of the Poor-law medical officers of the Hereford union; at the time of his death he was surgeon to the Post Office and medical examiner of recruits on behalf of the War Office. He was of a retiring disposition, taking little part in the public life of his adopted town except in recent years when he attended very regularly to the duties of a county magistrate. When the reserve which seemed natural to him was pierced he displayed a kindliness and thoughtful consideration for others which had a special charm. About ten years ago he received a severe blow in the death of his only son who had been in partnership with him for little more than a year. He was married in 1862 and is survived by his widow and four daughters.

Death of Mr. R. S. Stewart, M.D. Glasg.

Dr. Robert Sloss Stewart, medical superintendent of the Glamorganshire County Asylum at Bridgend, died there on Sept. 28th from heart failure. Dr. Stewart received his medical education at the University of Glasgow, where he graduated as M.B. in 1883, taking the degree of M.D. in 1886. After holding resident appointments at the Western Infirmary, Glasgow, he was appointed assistant medical officer at the Glamorganshire County Asylum, and on the resignation of the medical superintendent (Dr. Henry T. Pringle) in February, 1904, he was unanimously appointed to the post. Dr. Stewart contributed various articles on mental diseases to the English and French medical journals. About 12 months ago he suffered from an attack of pneumonia which necessitated a prolonged absence from his professional duties.

Tuberculosis in Fowls.

At the quarterly meeting of the Somerset County Agricultural Instruction Committee, held at Taunton on Sept. 22nd, under the presidency of Mr. Bateman Hope, M.P., Mr. Walkey, the county instructor in poultry keeping, reported upon the prevalence of tuberculosis in fowls at Chew Magna. He added that the disease seemed more prevalent in Somerset than elsewhere. Mr. Walkey asked the committee to memorialise the Board of Agriculture so as to give him definite power to kill diseased fowls, as at the present time his instructions were hardly ever acted upon. Eventually it was decided to apply for permission to carry out experiments at Cotford Asylum farm to determine whether the disease was hereditary.

Oct. 1st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Physical Training in Schools.

THE importance that is nowadays attached to physical training as a necessary part of the educational code is an outstanding feature in the work of the schools in the city of Glasgow. Evidence of this is to be seen in the minutes of a recent meeting of the school board, where it was intimated that classes for instruction in Swedish drill are shortly to be opened and 300 teachers under the board have intimated their readiness to attend. This is evidently a step in the right direction, for if the physique of school children is to be improved it is essential that the teachers should have some conception of what physical training really is.

Proposed New Provisional Order for Glasgow.

The health committee of Glasgow has asked the corporation in its next Provisional Order to give it the power, already possessed by Huddersfield, of making it compulsory that births should be notified to the medical officer of health within 48 hours. The committee also recommends the corporation to apply for power to license farmed-out houses. With regard to the disposal of carcasses, the health committee is trying to arrange a conference with the butchers. It is not thought satisfactory that when a carcass is condemned it should be taken out of the market and it is now proposed that a carcass should not leave the hands of the condemning authority—the veterinary surgeon—until it has passed all chance of again being utilised for human food. The committee also recommends the adoption of a system of marking to indicate that meat has been officially inspected.

Home for Epileptics at Bridge-of-Weir.

At the Orphan Homes of Scotland, Bridge-of-Weir, the first home in connexion with the new Colony of Mercy for Epileptics was formally opened. This is the first home in Scotland opened for epileptics and the idea originated with the late Mr. Quarrier who in his work amongst the suffering poor was struck by the lack of provision for young men and girls suffering from epilepsy. Shortly before his death Mr. Quarrier acquired a farm of 200 acres at a cost of £8000. The building erected for the reception of inmates cost £4000 and over and above that extensive drainage and water schemes have been carried out, together with the installation of an electric lighting system, which brought the cost up to £5500. The home has been started with the young men and these are already at work on the farm.

A Motor Ambulance Wagon.

The St. Andrew's Ambulance Association has been showing to those interested a motor ambulance wagon specially designed and constructed for it by the Argyll Motor Company. Two ignition systems are fitted and the gearing consists of three forward and one reverse, the wheels being of the artillery pattern. Special attention has been paid to the design of the springs; the rear is of an exceedingly flexible type and the front consists of a duplex spring arrangement. The frame is of an exceptionally strong construction, being a channel section and pressed from sheet steel. The internal dimensions of the wagon are: length, 8 feet; breadth, 3 feet 10 inches; and height, 6 feet. Electrical fittings have been provided in the shape of three ceiling lamps and one communicator by means of which instructions to the driver can be given from the interior. The body is insulated from the chassis by means of rubber pads and the full standard St. Andrew's ambulance equipment is provided inside.

Proposed Sanatorium in Dumfriesshire.

At a recent meeting of subscribers to the proposed sanatorium for consumptives in Dumfriesshire it was agreed that in view of the recent action of the Local Government Board it would be necessary to modify their original plans. As a result of the action of the Local Government Board it seems probable that the prevention and control of pulmonary tuberculosis in their respective areas will in future be undertaken by the local authorities. In that case it is likely that the three counties of Dumfries, Kirkcudbright, and Wigtown will amalgamate and erect one sanatorium capable of receiving patients from all three counties. In view of this possible arrangement it was agreed at the meeting of subscribers to embark upon no independent permanent scheme but to make arrangements for the treatment in neighbouring sanatoriums and by other means of suitable consumptive cases until such time as the plans of the local authorities should be carried out. It may be mentioned that the subscription list for the county amounts to £8437. There are in Wigtownshire at the present time 300 persons suffering from pulmonary tuberculosis and the average deaths from that cause alone are 143.

Oct. 2nd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Public Health of Belfast.

ON Sept. 28th the Belfast corporation met in committee for the purpose of considering the applications for the post of medical officer of health, of which there were 16. It finally made the following short list: Dr. S. G. Moore (Huddersfield), Mr. H. W. Bailie (Belfast), Dr. F. J. H. Coutts (Blackpool), Dr. Charles O'Neill (Belfast), Dr. James Beatty (Northampton), and Dr. Alexander Robb (Paisley). Dr. Moore is the present medical officer of health of Huddersfield; Dr. Coutts is medical officer of health of Blackpool and was formerly assistant to Professor S. Delépine of Manchester; Dr. Beatty is medical officer of health of Northampton and was assistant medical officer of health in Manchester; Dr. Robb is medical officer of health of Paisley; Dr. Charles O'Neill is medical officer of health to the Castlereagh district council, Belfast; and Mr. Bailie has had no experience of public health work beyond the fact that until some months ago he was a member of the Belfast corporation and of the public health committee. He is L.R.C.P. & S. Edin. and L.F.P.S. Glasg. and his application states that he has been brought into intimate contact with citizens in every part of the city and has so gained an intimate knowledge which would, in his opinion, be of supreme value in discharging the duties of medical officer of health. This knowledge, together with his familiarity with the nature of the soil and subsoil in different districts of the city, and his lengthened experience of the climatic conditions, it is claimed, give him in dealing with the cause and prevention of disease an advantage which can only be acquired by years of study. Dr. Moore and Dr. Coutts are M.D.'s of the Victoria University. Dr. O'Neill is M.D. of the Royal University of Ireland, Dr. Beatty is M.D. of Trinity College, Dublin, Dr. Robb is M.D. of Aberdeen, while Mr. Bailie has no university degree. On Oct. 1st at 11 o'clock the council in committee elected Mr. Bailie, the final vote being 30 for him and 22 for Dr. Moore. When an hour later the council met at the usual monthly meeting an immense deputation presented the resolutions which had been passed at the citizens' meeting on Sept. 27th, but the appointment was ratified by a majority of 14 in a council of 50, though a strong protest was made by the minority.

Royal University of Ireland.

The Right Rev. Monsignor Molloy, Vice-Chancellor of the Royal University, and rector of, and formerly professor of natural philosophy in, the Catholic University of Ireland, died suddenly on Oct. 1st at Aberdeen where he attended as a delegate from the Royal University at the recent celebration and received the degree of LL.D. He was a member of the council of the Royal Dublin Society for many years and his science lectures delivered in the theatre there attracted large audiences. In consequence of his death the dinner about to be given by the past and present students of the Mater Misericordiæ Hospital to Sir Christopher Nixon at the Shelbourne Hotel on Oct. 6th has been postponed. Dr. Molloy was largely instrumental in passing the recent regulations by which further disturbances by rowdy students at the Royal University will be prevented.

Opening of the Medical Session in Dublin.

The Royal Academy of Medicine in Ireland has issued notices to all its Fellows that the annual meeting will be held at the Royal College of Physicians on Oct. 12th when the election of officers and members of sectional councils will take place. A lecture inaugural to the medical session will be delivered at the Meath Hospital by Sir Lambert H. Ormsby, M.D. Dub., on Oct. 8th. Mr. J. S. McArdle will deliver an address introductory to the medical session at St. Vincent's Hospital on Oct. 9th.

The Hygiene of the Irish Primary Schools.

The report of the Commissioners of National Education in Ireland for the school year 1905–06 indicates that the whole system of primary education in Ireland, in so far as it depends on the provision of proper school accommodation, is apparently in a state of paralysis. Insufficient floor space, insufficient seating accommodation, insufficient class-rooms, no provision for encouraging cleanliness and sanitation by means of the simplest form of lavatories—such are the features of the Irish schools. The overcrowded state of the schools in Belfast is so aggravated as seriously to endanger the health of the pupils and teachers. One of the senior Belfast inspectors, describing the accommodation in the schools under his charge in Belfast, says: "There are about 20 class-rooms in which there are no facilities for heating" and "25 class-rooms are too small for teaching purposes." The condition of affairs in some of the schools on the county Down side of the Lagan—a river which divides Belfast in two—is simply appalling. "Two days ago," the inspector reports, "for example, I visited a school and found 401 children present, though there is proper accommodation for only 209. The average daily attendance at this school was 329 for the year ending Dec. 31st, 1904. But much worse remains to be told. I found 78 infants in a room 19 feet by 9¼ feet, 64 first standard pupils in a room 14 feet by 9¼ feet (with one window admitting of being opened), and 33 first standard pupils in a room 13¼ feet by 10 feet. Surely disgraceful is at best a mild adjective to describe this condition of things which loudly calls for attention. The congestion is so great that lavatories, cloak-rooms, halls, and passages are utilised for class purposes." After giving such a terrible illustration the Commissioners add: "While overcrowding is the chief defect in the centres of population many of the school houses in rural districts are mere hovels; uneven earthen floors, broken roofs through which the rain freely enters, windows incapable of admitting sufficient light or air, are common defects. Even in schools that afford sufficient accommodation, and that are not defective on sanitary grounds, improvements are required to provide proper class teaching." With such an extraordinary state of affairs the question arises, What are the public health authorities in Belfast about to allow such a "disgraceful" state of matters to exist in their primary schools? An equivalent grant for purposes of education of about £185,000 per annum was voted in 1902 for Ireland, but this money was converted into a development grant, from which various Irish interests quite distinct from education were provided for. As a consequence the whole grant has been diverted from education. The Treasury has repeatedly proposed that building claims should be placed upon this development grant, and when it was evident that it was well nigh exhausted by non-educational services that the rates should be charged But the Commissioners cannot strike a rate and the Government holds out no prospect of legislation, such as the Treasury desires, being introduced. Hence, as the Commissioners say in their report, which is addressed to the Lord Lieutenant, "we appeal to the Irish Government strenuously to endeavour to remove it in the only way feasible—viz, by inducing the Treasury to abandon the attitude which they have taken up since the committee reported in 1902" The whole subject will be vigorously raised in Parliament next session. In the meantime—with such a state of affairs—is it any wonder that preventable diseases like tuberculosis and typhoid fever are so prevalent in Ireland?

The Treatment of Infectious Diseases in Belfast.

A curious controversy has arisen between the Belfast board of guardians and the city corporation which well illustrates the divided responsibility and the utter want of forethought in all public-health arrangements in that city. The guardians have forwarded a resolution (passed by them) to the city council asking to be relieved from the treatment of cases of infectious disease in future at the fever hospital, in order that that building may be allocated for the accommodation of other classes of workhouse inmates. In reply, the health committee stated that the accommodation in the Purdysburn municipal hospital is at present limited to 168 beds which will be allocated to the diseases scheduled under the Infectious Diseases Notification Act, 1889; that the corporation has not power to relieve the guardians of any of their legal responsibilities; and that the Purdysburn fever hospital will be available, so far as its accommodation permits, to all citizens under the provision of the Public Health (Ireland) Act, 1878, and that no particular class of the community will be given any preference. Such a cryptic legal answer is a mere beating the wind. The clear issue is, shall a citizen of Belfast ill of an infectious disease be always sent—as certainly is the opinion of the people—to the municipal fever hospital, or shall he only be sent there until the beds are filled up—the number 168 is apparently too small—and then in such circumstances shall he be obliged to go to the union fever hospital, the entrance to which implies pauperism? Further, what shall be done with any person in the vast hospitals of the workhouse who develops an infectious disease? Shall he be sent to the union fever hospital or to the Purdysburn municipal fever hospital? All these questions every clear-headed citizen might have foreseen and arranged some plan to deal with such a situation, but such things occasion no concern to the public health committee in Belfast

The Main Drainage of Belfast.

A hitch has occurred in connexion with the drainage scheme of Ballygomartin—a district in the north division of Belfast. The city surveyor is endeavouring to have the matter made right and is making arrangements to have an outlet made into the main sewer, provided no legal difficulty stands in the way.

New Ambulance Carriage for Belfast

On Sept. 21st a new ambulance carriage, subscribed for by the public, was named "The Dudley," in appreciation of the great interest evinced by the Countess of Dudley in hospital and ambulance work, by Lady Dixon, wife of the Lord Mayor of Belfast, and was handed over to the chairman of the police committee by Mr. R. H. Reade, D.L. (the son of a former Belfast medical man) on behalf of the subscribers Mr. Reade specially referred to the great aid rendered by one of the Belfast ambulances to his daughter who had sustained an accident in the hunting field.

The Epidemic of Typhoid Fever in Belfast.

The epidemic of typhoid fever in the Windsor portion of Belfast still continues and the public-health officials are trying to find out its cause.

Oct. 2nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

International Congress of Practical Hygiene.

AN international congress of practical hygiene will be held in Paris from March 26th to 31st, 1907. The president will be Professor Raphael Blanchard who is a member of the Academy of Medicine. The work of the congress will be conducted in eight sections. The principal items of the programme will be the hygiene of food, of military operations, of dwelling-houses, of factories and workshops, and of the colonies; general hygiene; the bringing-up of children, the hygiene of adolescence; and alcoholism. The full programme and the terms of admission may be obtained by making application to the general secretary of the congress, M. Schaer-Vezinet, 15, Rue des Petits-Hôtels, Paris.

Boiled Milk in Schools.

The French Minister of Public Instruction has just sent out to headmasters of schools (*recteurs d'académie*) a circular in the first part of which he reminds them that the permanent commission for the prevention of tuberculosis, sitting at the Ministry of the Interior, had recommended that no uncooked milk should be used in any school unless it came from dairies where all the cows were tested with tuberculin and examined by official inspectors. All milk intended for use in schools but unprovided with this guarantee should be pasteurised, boiled, or sterilised. The Minister then goes on to say that the permanent commission renewed the above recommendation four months later after having consulted the most recent statistics which showed that in certain parts of the country from 60 to 80 per cent. of the cattle were tuberculous. As this question was one of great importance for public schools which took boarders the Minister requested the headmasters to give such instructions to their subordinates as would insure that only boiled milk should be used where there were boarders.

The French Surgical Congress.

The nineteenth meeting of the French Surgical Congress was opened on Oct. 1st in the great amphitheatre of the Faculty of Medicine. The president was Dr. Monprofit, a professor in the school of medicine at Angers, and there was a large attendance of eminent surgeons, both French and foreign. In a brilliant inaugural address Dr. Monprofit reviewed the work of preceding congresses and described recent advances in surgery. He called attention to the danger of waiting too long before an operation was undertaken He then spoke of the importance of early and diligent hospital attendance in the training of practitioners and expressed the hope that the two years of military service which the new law has made obligatory on all students would be profitably employed by them in gaining practical experience in the military hospitals. He concluded with a touching tribute to the memory of deceased members. The annual report was read by M Walther, the general secretary. The first item on the programme was the surgery of the large venous trunks and there was a discussion on the subject in which several speakers took part.

International Congress on Alimentary Hygiene.

As already mentioned in THE LANCET of Sept 22nd, p. 835, the First International Congress on Alimentary Hygiene and a Rational Diet for Man will be held at the Paris Faculty of Medicine from Oct 22nd to 27th The congress will include the following 12 sections. (1) biological physics, (2) biological and physiological chemistry;

(3) rational food systems and dietetics; (4) analytical chemistry, adulteration, and legislation; (5) bacteriology, toxicology, and parasitology; (6) statistics, instruction, and ways and means; (7) application of hygienic principles in the manufacture and preparation of food, and conveyance of food from place to place; (8) the hygiene of food and rational food systems in the home and elsewhere; (9) coöperation and competition; (10) distribution of food gratis or at reduced prices; (11) food in relation to the prevention of alcoholism and tuberculosis; and (12) the diffusion of knowledge in schools and elsewhere with respect to rational food systems and the hygiene of food. The first seven of these 12 sections constitute Division 1 of the congress, dealing with scientific methods and Professor Bouchard and Professor Armand Gautier will preside. The five last sections constitute Division 2 of the congress, dealing with social questions relating to food; the president will be M. Jules Siegfried.

Oct. 2nd.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The German Association of Naturalists and Medical Men

THE annual meeting of the German Association of Naturalists and Medical Men took place at Stuttgart from Sept. 17th to 23rd. Some fears have been recently expressed that this old and celebrated society was suffering from the competition of the numerous special congresses which have been recently inaugurated, and it must be acknowledged that of late years important papers have seldom been read at its meetings, original researches by the members being communicated either to some congress of specialists or to one of the great international congresses. For the last two years the joint meetings of the naturalists and medical men, though very successful from a social point of view, have not accomplished much so far as scientific work is concerned. Numerous proposals have been made to improve this state of matters. It has been suggested that the congresses of the association should take place every second year, the intermediate year being reserved for congresses of the special branches. An agreement would have to be made between the committees of the association and of the various special congresses and it is very doubtful whether an arrangement of this kind would be accepted by certain committees. Some congresses—such as, for instance, the Surgical Congress which meets every year at Berlin in the week after Easter and owns a house of its own (Langenbeck House), would certainly decline to modify its procedure so as to meet the views of the Association of Naturalists and Medical Men. At some of the recent congresses of the latter association it was arranged that some of the medical sections should hold a joint meeting where questions relating to different branches of medicine were to be discussed apart from the old established general meetings where medical men and naturalists meet together to listen to lectures on subjects of general interest and where no discussion takes place. But all these proposals, whether they have come into actual operation or whether they have stopped short in the inceptive stage, have not succeeded either in restoring the congresses to the position of a scientific centre which they formerly held or in bringing their utilitarian side to a level with the social side which is now predominating more and more. It is easy to see that a great many of the members attend the congress more for social than for scientific purposes, and this is not surprising, for the tendency to reserve original papers for the special congresses is so strong that little is available for the Association of Naturalists and Medical Men. The hybrid constitution of the association, as indicated by its name, forms another difficulty, for the majority of the papers are concerned with natural science and many of them are not of medical interest. Medical science ought in fact to have a congress of its own. Notwithstanding the enormous number of congresses of various kinds no general medical association exists in Germany. It has been said that the Association of Naturalists and Medical Men serves a useful purpose by maintaining a connexion between medicine and natural science, but it is carrying this idea too far when dermatologists and mathematicians, or surgeons and astronomers are brought together to discuss their several fields of work at one and the same meeting. If a general medical congress were established the connexion of medicine and natural science could be maintained by addresses on subjects belonging to natural science delivered by specially invited speakers. The sections of the medical congress would then take the place of the now existing congresses of the special branches of medicine. The recent congress at Stuttgart was fairly well attended. In a general meeting of the congress the question of regeneration and transplantation of tissues and organs of animals was discussed. Professor Garré, speaking from a surgical point of view, mentioned the successful transplantation of a thyroid gland into the spleen for the treatment of cretinism and said that the difficulty lay in procuring a sufficient blood circulation in the transplanted organ. He had lately improved his technique of suturing blood-vessels, so that he was now able to join blood-vessels of as small diameter as 1·5 millimetres. He was by this means enabled to transplant a kidney from one dog to another dog and to join the ureter with the bladder, the result being that the transplanted kidney discharged urine into the bladder. In the dermatological section Professor Neisser of Breslau gave an account of his investigations on syphilis in monkeys, a subject to which reference has been already made in THE LANCET. He said that in one case where the diagnosis of syphilis was doubtful in a patient the question had been decided by a successful inoculation of glandular fluid into a monkey. Professor Hofmann of Berlin said that the spirochæta pallida had been discovered in syphilitic persons every time that it had been looked for, so that no doubt any longer existed as to its virulent action. In the neurological and forensic section Professor Gudden of Munich read a paper on the legal responsibility of certain people who commit thefts from large retail shops. He explained that the majority of these offenders were in the habit of taking objects of no use to them and that from this fact it must be concluded that they pilfered without premeditation. Going into further details he said that 99 per cent. of them belonged to the female sex and were either psychopathic, asthenic, or hysterical persons, who must be regarded as not responsible for their actions. In the section of hygiene the relation between human and bovine tuberculosis was discussed. Dr. Weber of the Imperial Health Office said that it had been proved by the researches carried out by the office that human beings might be infected by bovine bacilli. 14 new cases of infection were ascertained, the patients being children from one to 12 years of age; 50 per cent. of all the cases of intestinal tuberculosis were of bovine and 50 per cent. were of human origin. Dr. Wersenhoeffer of Berlin read a paper on the Causes of Cerebro spinal Meningitis. The diplococcus intracellularis discovered by Professor Weichselbaum of Vienna in meningitis was found to be present within the mucous membrane of patients suffering from cerebro-spinal meningitis. The diplococcus produces a specific pharyngitis and the infection then makes its way from that region into the meninges. In a meeting of the combined medical sections the question of traumatic neurosis and the influence of the workman's insurance laws on its aggravation was discussed.

The late Professor Hermann Cohn.

Dr Hermann Cohn, professor of ophthalmology in the University of Breslau, died in that city on Sept. 15th. Although his name was not associated with discoveries in the surgery or pathology of the eye he was held in great esteem by the medical world and the public at large as a leading ophthalmologist. His examination of the eyes which he carried out in 10,000 school children led him to the discovery that myopia increased in proportion to the standard of the school and the grade of the class, so that in village schools and in the lower class the myopia was least frequent, whilst the acme was reached by the pupils of the gymnasia in towns. His observations induced him to advocate improved methods in the lighting of the class-rooms, in the printing of schoolbooks, and in writing, &c., which were in course of time introduced according to his advice. Professor Cohn was born in 1838 in Breslau; he first devoted himself to natural science and took the degree of doctor philosophiæ in 1860. He then studied medicine and took the degree of M.D. in 1863 In 1864 he became an assistant to the late professor of ophthalmology, Professor Foerster; in 1868 he was recognised as *privat-docent*, and in 1874 he was appointed professor of ophthalmology in Breslau, where he spent the remainder of his life.

Oct. 1st.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Francesco Roncati.

A STRIKING and genial personality has disappeared from the professional foreground in Dr. Francesco Roncati of Bologna where he succumbed on Sept. 14th to a long and painful illness. Of Modenese parentage he was born at Spilamberto in 1834, but from education and life-long sojourn he was fondly claimed by Bologna where for more than half a century he was conspicuous in academic, consultant, and civic circles, first as professor in the University, next as director of the great Manicomio (lunatic asylum), and finally as a social, if not political, force. His intellect, at once acute, nimble, and weighty, owed much to systematic and thorough training and the professional authorship in which these qualities were apparent brought him so effectively into notice that he passed in quick succession from the chair of public health to that of legal medicine and finally to that of psychiatry, which had long been his special and favourite study. On the clinical side of the subject he showed an aptitude quite *hors ligne*, when, in connexion with the chair, he became also director of the Manicomio, the administration of which he improved and made progressively efficient during his 40 years' tenure of the post. Both with pupils and colleagues he was a particular favourite, always accessible and pleasant-mannered, keeping, however, his eminently "popular" gifts in due subservience to the honour and dignity of the profession. It was thus that with something like "acclamation" he was appointed rector of the University and discharged the duties of the post with a success that will long be remembered in the Bolognese school. His Excellency the Minister of Public Instruction telegraphed his condolences to the Roncati family and also to the Senatus Academicus on learning their loss and deputed the rector to represent him at the funeral which took place on Sept. 15th.

Deaths from Ptomaine Poisoning.

Now that the "seekers after sun" are beginning to descend on the Italian winter cities, it may be well to give a note of warning as to the dangers which they incur by the food that may be set before them. The tinned-meat scandals that have filled the journals—professional and lay—in England and America have had their echo in Italy, where, particularly at hotels, pensions, and public restaurants, preserved viands are apt to be served at every meal—morning, noon, and night. However carefully the said viands may have been packed there is no means of knowing how long they have been kept in store or whether they may not have undergone chemical changes productive of disease or even death in the consumer. A lamentable instance in point has occurred in Turin, where ptomaine poisoning on an extensive scale has been traced to the consumption of preserved tunny, a favourite delicacy eaten generally with salad. Expert examination has been followed by an official report, according to which tunny, even if in the first instance quite sound and carefully packed, "can elaborate and contain in its organism toxic substances not completely destroyed by boiling, which, when ingested by the human subject, may cause irritant poisoning." When these substances, moreover, are developed, their presence may be so effectively disguised by the chemical treatment now practised even by cooks that their deadly mischief may have been incurred by their ingestion and not realised by the consumer till too late. Nothing seems likely to arrest this active cause of disease but the combined "boycott" of such foods on the part of the public, as recommended by more than one health officer. To such a demonstration the landlord class are peculiarly sensitive—nowhere more so than on the continent. As I write a Milanese journal, under the title "Ne uccide più la Gola che la Spada" (more are killed through the œsophagus than by the sword), reports a case of wholesale poisoning from the ingestion of oysters on the Ligurian seaboard. Of a company of soldiers, it seems, six were seized with excruciating intestinal pains after eating heartily of oysters and on being carried to the hospital of San Rocco two died, while the other four (having consumed less) are still "gravemente ammalati." The oysters, it turns out, had been kept in a receptacle "non bene stagnato" (not well soldered) and the inference is drawn that it was not a case of ptomaine but of metallic poisoning.

Honours to Italian Men of Science at the Aberdeen Quatercentenary.

The degree of LL.D. was conferred at this celebration on Professor Cesare Lombroso of Turin, founder of the "new science" of criminal anthropology; on Guglielmo Marconi of wireless-telegraphy renown; on Guglielmo Romita, professor of anatomy at Pisa—eminent not only as a teacher but as an investigator; and on Giuseppe Veronese, the distinguished occupant of the chair of analytical geometry in the University of Padua. The Cavaliere Rudolfo Lanciani, famous among other archæological achievements for his work on the water-supply of ancient Rome, also received the same academic honour.

Sept. 29th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

No More Expectoration on Sidewalks.

ACCORDING to the plan of campaign recently adopted by the tuberculosis committee, which is composed entirely of non-medical members, there will be no more expectoration either on sidewalks or in public places or vehicles. The members of the committee strongly recommend that wide publicity should be given to the anti-expectoration ordinance, aided by the press and printed cards, the latter to be brief and forcible. Offenders caught in the act are to be prosecuted forthwith. The committee has drafted a formal memorial to the city council in the following terms. 1. The police and health departments shall be instructed to cause the arrest of persons who wilfully and persistently violate the ordinance by expectorating on sidewalks, &c. Of course, it is not possible to arrest every offender, but an occasional arrest would call the attention of the public to the ordinance and the nuisance. 2. Notices to this effect shall be given to proprietors of halls, &c.; they shall be posted on patrol boxes and other conspicuous places, and an order shall be issued to provide for posting them in tramcars, &c. The committee was instructed (1) to make representations to the various companies engaged in the conveyance of passengers urging the need of cleaner cars; and (2) to secure coöperation from the Board of Education in bringing to the attention of school children the evil of the spitting habit, in order that they might take the lesson to their homes.

A Crusade against Tuberculosis.

The preliminary announcement of a far-reaching crusade against tuberculosis has been made by Professor Koranyi who is acting in conjunction with the Princess Elisabeth. Registration of cases of the disease is to be the first step in the plan as outlined. Added to this will be the removal of infected persons to a camp to be established in a mountainous part of the country. The coöperation of the State authorities is to be enlisted, as the camp would at first have to be sustained by grants, though there is reason to believe that it could be made self-supporting later. The scheme as outlined will take considerable time to put into working shape but it will be pushed as fast as the necessary aid can be secured.

Typhoid Fever and Flies.

The sanitary adviser of a country town in the official report of his investigation of the origin of a recent epidemic of typhoid fever at the local jail, said that several cases of typhoid fever had occurred in dwelling houses in one of the streets that skirt the jail premises and that flies had carried the typhoid bacilli from these houses into the jail, entering by the open windows and depositing the bacilli on the food in the kitchen. There were four deaths among the 17 patients who suffered from typhoid fever in the jail.

The Mortality under Anæsthesia in Hungary.

The annual returns of the Hungarian registrar-general show a steady decrease in the number of deaths under anæsthetics since the year 1900. In that year there were 31 deaths registered as due to anæsthetics. This was an entirely unnecessary price to pay for the boon of anæsthesia, since the chief reason of these accidents, as Professor Dollinger says, is ignorance of the most elementary principles of the that deaths from chloroform are due simply to a too great concentration of the inhaled vapour. Ether has of late become much more popular in Hungary than formerly and in consequence of this the number of deaths from anæsthetics has decreased.

Sept. 27th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Vital Statistics in the Turkish Metropolis.

THE new and energetic prefect of the city of Constantinople, Réshid Pasha, is about to introduce a sanitary reform which will, if realised, prove to be of great service to the population of the Ottoman metropolis. He intends to reorganise the public service of vital statistics which up to now has been in a very unsatisfactory condition. Réshid Pasha proposes to alter this unsatisfactory state and to introduce sanitary statistics of a more regular and precise character. The sanitary inspectors of each municipal district will henceforward have to furnish exact information concerning the different infectious diseases. The precise number of persons suffering from these maladies will also have to be recorded and much greater attention will be paid to the rate of mortality. It is very desirable (says the Turkish newspaper *Sabah*) to include in this sanitary reform the whole Ottoman Empire and to enjoin upon the provincial sanitary inspectors the duty of sending to the prefecture of the capital regular monthly reports concerning the vital statistics of their vilayets. These reports should be published periodically.

A New Water-supply.

The machinery and the reservoirs at Kiat-Hané (the so-called Sweet Waters of Europe), which have been in a deplorable condition for some time past, are at present being repaired at the express command of the Sultan. These repairs were necessitated by the insufficiency of the water-supply from Taxim which furnishes the whole European quarter Pera. The works are being executed under the special supervision of the city prefect, Réshid Pasha. Once accomplished, the renewed installation will furnish Pera with 2000 cubic metres of excellent drinking water daily.

The Sale of Old Clothes and its Dangers.

A number of poor people, Armenians, Jews, and Greeks, gain a living in the metropolis by selling old clothes, which they buy for very trifling sums, to merchants. These, in their turn, sell them to the public, after having given them, through diverse skilful manipulations, the appearance of quite a new article. The danger to the public health of such a practice is obvious. These clothes are never disinfected. Some have been worn by people suffering from infectious diseases and many infectious cases have been directly traced to the garments so bought. The public authorities are beginning to pay attention to this dangerous practice and it is hoped that it will be put an end to.

Sept. 27th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Increase of Immigrants suffering from Trachoma.

THE Commissioner of Immigration reports that more immigrants are arriving in this country suffering from trachoma than at any former period. Ten persons afflicted with this disease have been deported daily for the last two months. Steamship companies on whose vessels these immigrants are brought to this country are heavily fined for every case proved against them, the fine being $100 for each person. For 60 days prior to August 4th the Department of Commerce and Labour assessed in fines on steamship companies $8100 for bringing into this country aliens suffering from communicable diseases. Most of the diseased immigrants were suffering from trachoma. On a single day, August 22nd, fines were levied on steamship companies aggregating $1200. The department is unable to explain how it is that so many cases of this disease reach these shores when every emigrant from foreign ports is compelled to submit to a medical examination before he purchases a ticket for his passage.

Medical Education in the United States.

The total number of medical colleges in the United States on June 30th, 1906, was 161; of this number 130 are regular, 18 are homœopathic, 9 are eclectic, 3 are physio-medical, and 1 is unclassifiable. Seven of the regular colleges do not grant degrees, teaching only the first and second years' studies in the medical course. The total number of matriculated medical students for the year was 25,204, of which number 23,116 were in attendance at the regular schools, 1085 at the homœopathic, 644 at the eclectic, 110 at the physio-medical, and 249 at the unclassified school. The attendance at the regular schools shows a decrease of 1003, as compared with the attendance last year; the number of matriculants for 1906 was, in fact, the smallest since 1900. The number of graduates for the last year was 5364, the smallest number since 1902, when it was 4999. The number of women studying medicine in 1906 was 840, or 3·3 per cent. of all medical students, as against 4·1 per cent. last year. There were 233 women graduates last year, or 4·5 per cent. of all the graduates.

The Fourth of July Tetanus and its Prevention.

Tetanus, due to the poisoning of wounds inflicted by explosives on July 4th, has become a very serious annual casualty. Efforts to prevent the occurrence of these attacks have been made, chiefly by informing the public of the dangers which are liable to follow the use of toy explosives, but with little effect. In 1904 Dr. Schreck, of the health department of the city of St. Louis, Missouri, resorted to the use of the antitetanic serum for the purpose of immunising the patient and with very satisfactory results. Recently he published the results of the three years' trial, which are as follows: In 1903, when the serum was not used, there were 56 cases, of which number 16 died from tetanus; in 1904, when the serum was first used, there were 37 cases and no deaths by tetanus; in 1905 there were 84 cases in which serum was used with no deaths; and in 1906 there were 170 cases and no deaths, the serum being used in all. The treatment consisted in freely opening the wound, thorough cleansing and disinfection, cauterisation with a 25 per cent. solution of carbolic acid, and injection into the cellular tissue of the abdominal wall of ten cubic centimetres of immunising serum.

Railway Car Sanitation Rigorously Enforced.

The health authorities of the State of Texas have adopted and are enforcing a code of sanitary rules for the sanitation of railway cars which will insure to the travelling public immunity from many of the discomforts to which it is now subjected. Sleeping cars are to be kept so clean at all times that there can be no possibility of the accumulation of dust or filth of any kind. A measure of the greatest importance is a discrimination between sleeping cars running within the State and those leaving the State for other States. The latter are not only subjected to the rigid rules of those within the State but they are required to be fumigated thoroughly every second or third trip according to the number of days which the trip occupies. If an infectious disease is found on board the car must be detached at the next station and disinfected before it is again used.

Securing Patients through Paid Agents.

A pernicious custom has grown up, especially at summer resorts and medicinal springs, of seeking practice from strangers by the resident physicians through the medium of paid agents. The legislature of the State of Arkansas, where this custom had become most prevalent, passed an Act prohibiting physicians from securing patients in this manner. Recently the matter was brought before the Supreme Court of that State by the prosecution of an offender by an association of physicians formed for the purpose of upholding and enforcing the law. The court decided that the law was not only constitutional but that it was a most salutary provision for the protection of the public health.

Enforcement of the Pure Food and Drug Law.

The "Pure Food Law," lately passed by Congress, is being enforced in all parts of the country by the local health authorities. In New York the code of sanitary ordinances has been modified in accordance with the provisions of the law and these ordinances, so amended, will be rigidly enforced, both against impure foods and adulterated drugs. This is the first step taken in this country to secure pure drugs. Drugs are defined in the amended code to include all medicines for external or internal use, or both. Any drug is deemed adulterated if, when sold by or under a name recognised in the United States Pharmacopœia or national formulary, it differs from the standard of strength, quality, or purity as determined by the test laid down in the United States Pharmacopœia or national formulary official at the time of the investigation; *provided that no drug defined in* the United States Pharmacopœia or national formulary shall be deemed to be adulterated under this provision if the standard of strength, quality, or purity be plainly stated upon the bottle, box, or other container thereof, although the standard may differ from that determined by the test laid down in the United States Pharmacopœia or national formulary. The new code states at length and with detail definitions of impure foods. It now seems impossible to effect the sale of impure foods and drugs in this city if the code is strictly enforced.

Sept. 22nd.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Mahomedans and Quarantine.

FOR some time past the Mahomedans of Bombay have been agitating and petitioning for the removal of the quarantine arrangements against pilgrims to Mecca and the reduction of quarantine at Kamran has given them an excuse to raise a protest again. At a large meeting held in Bombay some indignation was expressed that in spite of protests from the entire population of 60,000,000 of His Majesty's Mahomedan subjects the Government had made no alteration and the meeting urged upon the Government the necessity of the immediate abolition of quarantine in Bombay, because besides being a serious annoyance it was an unnecessary interference with the religious rites of the followers of Islam. They further urge that the recent conditional reduction of quarantine at Kamran cannot be regarded as justifying the maintenance of quarantine in Bombay, as pious pilgrims would rather undergo the full period at Kamran than reduced quarantine at each end of the journey. There is no reason why quarantine should be relaxed now, as Bombay is still infected with plague and the mortality in Bombay and throughout India is rising. For the safety of the Near East as well as of Europe it is to be hoped that this protest will not be listened to. It is impossible to trust to quarantine imposed under the Turkish Government and if an outbreak of plague occurred on a pilgrim ship the consequences on landing in Arabia might be disastrous. If anything has saved the Mediterranean and Europe from plague it is the admirable system of quarantine which has been maintained in Bombay.

The Plague Mortality in India.

The plague mortality throughout India is steadily rising. A month ago 562 deaths were the weekly record, while for the last week in August the figures have risen to 2522. Poona City has once more been suffering severely, the death-rate from plague alone during the past seven days being at the rate of 173 per 1000 per annum Central India returns 303 deaths, chiefly for Indore City. In Burmah the disease is subsiding. This province has so far escaped lightly, although Rangoon reported 416 deaths during the month of August. It is stated that as measures for the destruction of rats have been so successful in the Punjab there is a probability of but little plague there this season. The complete extermination of rats has not been accomplished anywhere and the destruction has not been carried out in many towns over a sufficiently wide area. In Umballa, for example, the native city was largely denuded of rats but the cantonment was comparatively neglected and the consequence was that the rats disturbed from the native city overran the cantonment.

The Economic Disposal of Carcases in Calcutta.

It is reported from Calcutta that the new installation for the disposal of carcasses contracted for with a German firm is working very satisfactorily. The carcasses are placed in a huge digester when they are subjected for several hours to steam under high pressure The gelatinous and oily matters are run off and subsequently separated and treated, while the flesh and bones exposed later to a dry heat are converted into a powder suitable for an artificial manure This new process is conducted on wild swamp land outside the city boundaries. It is to be hoped that the corporation will take over this business at the end of the contract.

Sept. 13th.

Obituary.

WHITLEY BLAND STOKES, M.D. DUB., F.R.C.S. IREL., F.R C.S. ENG., M R.C.P. LOND.

Dr. Whitley Bland Stokes of 37, Onslow-square, South Kensington, who died recently at the early age of 42 years, was a highly esteemed practitioner and belonged to a family whose names are as well known in science, literature, and the Indian Civil Service as in medicine and surgery. He received his professional training at Trinity College, Dublin, and St George's Hospital, London. In 1883 he took the diploma of L R C S. Irel. and was admitted a Fellow of the College in 1889 He graduated as M.D. at the University of Dublin in 1895 and in that year was also admitted a Member of the Royal College of Physicians of London, becoming a Fellow of the Royal College of Surgeons of England in 1899 After becoming qualified Dr. Stokes entered the service of the Army Medical Department and became surgeon-captain, but retired on account of ill health, the result of typhoid fever and dysentery contracted soon after his arrival in India This incapacitated him for several years but when his health improved he settled in general practice in South Kensington, where he gained a good connexion, and he leaves a large number of patients to mourn the loss of one who proved himself to be a valued friend, as well as a painstaking and skilful physician. He had held many and varied appointments. In Dublin he was assistant master of the Coombe Lying-in Hospital and in London he was assistant physician to the Hospital for Diseases of the Chest and Heart, medical registrar to St. George's Hospital, and anæsthetist to the Throat Hospitals in Golden-square and Great Portland-street. Dr. Stokes was a typical specimen of a warm-hearted Irishman, genial, generous, and impulsive; he had a high sense of professional rectitude and an intolerance of anything dishonourable. A thorough sportsman and an enthusiastic yachtsman, golfer, and fisherman, he was a general favourite and his manly form and his genial cheery greetings will be much missed not only by his *confrères* in South Kensington but also by the many consultants to whom he was well known.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following foreign eminent medical men are announced:—Dr. Wilhelm Czermak, professor of ophthalmology in the German University of Prague, in his fiftieth year, from an apoplectic attack. He studied in Gratz and was for several years *privat docent* of ophthalmology in Vienna. In 1892 he was offered an extraordinary professorship in Innsbruck, from which he migrated three years later to Prague. He published a "Manual of Eye Operations" and a number of papers on ophthalmological topics —Dr. Andreas Hoegyes, professor of pathology in Budapest. He was editor of the Hungarian medical journal *Orvosi Hetilap* and published a good many papers in German and Hungarian medical journals —Dr. W E. Taylor, formerly professor of surgery in the University of California, San Francisco —Dr. Hunter P. Cooper, professor of anatomy and surgery in the Atlanta College of Physicians and Surgeons.

WATER-SUPPLY OF TORQUAY.—A Local Government Board inquiry was held recently at Torquay into the application of the town council for sanction to borrow another £14,400 to complete the construction of the new storage reservoir at Tottiford, Dartmoor, the original estimate of which was £22,000 but which will eventually cost a sum exceeding £56,000.

CRIPPLED CHILDREN'S CHRISTMAS HAMPERS.—H R H. the Prince of Wales has sent to Sir William Treloar £5 as a donation to his "Crippled Children's Hamper Fund." The fund has for special reasons been opened much earlier than usual this year and His Majesty the King, as has already been stated, has sent his annual subscription of 10 guineas. The object of the fund is to send a hamper of Christmas fare directly to every crippled child in London who cannot attend the annual children's banquet at the Guildhall. On an average over 7000 hampers are thus despatched every Christmas, each containing enough to enable the child to act as host to the family for the day. Subscriptions should be sent to Alderman Sir William Treloar, 69, Ludgate hill, E C., who has now kept up the scheme for 13 years.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in September the following candidates passed in the subjects indicated :—

Surgery.—H. A. Fenton (Section I.), St. Mary's Hospital; Q. S. Keat (Sections I. and II.), Cambridge and St. Mary's Hospital; and C. J. M. Lawrence (Section I.), Manchester.

Medicine.—C. C. Morrell (Section I) and J. W. Peatt (Section II.), London Hospital; and G. M. Seagrove (Section I.), St. Bartholomew's Hospital.

Forensic Medicine.—A. E. Blythman, Charing Cross Hospital; M. L. Ford, London Hospital; Q. S. Keat, Cambridge and St. Mary's Hospital; and C. C. Morrell, London Hospital.

Midwifery.—Q. S. Keat, Cambridge and St. Mary's Hospital; and G. Rollason, Birmingham.

UNIVERSITY OF DURHAM.—At the Third Examination for the degree of Bachelor in Medicine held in September the following candidates satisfied the examiners:

Pathology, Medical Jurisprudence, Public Health, and Elementary Bacteriology.—Second class Honours: Charles Frederick Morris Saint, College of Medicine, Newcastle-upon Tyne; Elizabeth Patteson, London School of Medicine for Women; and David Ranken, College of Medicine, Newcastle-upon-Tyne. *Pass List:* Kenneth Bruce Allan, Herbert Ridley Crisp, and Henry Glendinning Davison, College of Medicine, Newcastle-upon-Tyne; Harold Ferens, St. Thomas's Hospital; Charles Westland Greene, Royal College of Surgeons in Ireland; Isaiah Hodgkinson and Frank Widowfield Melvin, College of Medicine, Newcastle upon-Tyne; Charlotte Purnell, London School of Medicine for Women; Francis Aidan Robinson, Edward Davison Smith, and Basil Taylor, College of Medicine, Newcastle upon-Tyne; John Henry Tripe, M.R.C.S., L.R.C P., London Hospital; Lionel Langford Westrope, College of Medicine, Newcastle-upon-Tyne; and Frank Whitby, St. Bartholomew's Hospital.

FOREIGN UNIVERSITY INTELLIGENCE.—*Baltimore (Johns Hopkins University):* Dr. W. W. Ford has been appointed Associate Professor of Bacteriology and Dr. Arthur S. Lœvenhart Associate Professor of Pharmacology and Physiological Chemistry.—*Erlangen:* Dr. Jamin has been appointd Eextraordinary Professor of Medicine and the History of Medicine; Professor Hauser has declined the invitation to succeed Dr. von Rindfleisch in Strasburg.—*Göttingen:* Dr. Stolper has been appointed Extraordinary Professor of Forensic Medicine.—*Munich:* Dr. Fritz Lange has been appointed Extraordinary Professor of Orthopædic Surgery.—*Naples:* Dr. Giuseppe Giardina of Palermo has been appointed Extraordinary Professor of Hygiene.—*New York (Cornell University):* Dr. Charles L. Gibson has been appointed Professor of Surgery.—*Würzburg:* Dr. Otto Seifert has been appointed Extraordinary Professor of Dermatology and Venereal Diseases.

ST. BARTHOLOMEW'S HOSPITAL.—The following entrance scholarships have been awarded:—Senior entrance scholarships, value £75 each: A. E. Stansfeld and A. C. Sturdy. Junior entrance scholarship, value £150: R. G. Hill and C. T. Neve (equal). Preliminary scientific exhibition, value £50: J. W. Trevan. Jeaffreson exhibition, value £20: C. Bilderbeck.

THE LONDON HOSPITAL MEDICAL COLLEGE.—The following scholarships have been awarded:—Price scholarship in science, value £130, Mr. H. B. Walker; science scholarship, value £60, Mr. Frederic Sanders; science scholarship, value £35, Mr. R. A. Rowlands; Price scholarship in anatomy and physiology, value £60, Mr. E. J. Fearnsides; and Epsom scholarship, value £120, Mr. R. K. Mallam.

UNIVERSITY OF CAMBRIDGE.—Mr. F. A. Potts, Trinity Hall, has been appointed assistant to the superintendent of the Museum of Zoology. Dr. H. B. Roderick, Emmanuel College, has been appointed demonstrator of surgery and Mr. J. J. Lister, F.R.S., St. John's, demonstrator of comparative anatomy.—The Frank Smart scholarship in botany has been awarded to D. Thoday, B.A., Trinity College.—By the untimely death of Professor Marshall Ward on August 26th the chair of botany is vacant. The election of his successor will take place on Nov. 3rd.—The name of R. E. Barnsley, Trinity, should be added to the list of successful candidates in biology for the first M.B. examination of last term.—The following have been approved for the Diploma of Tropical Medicine and Hygiene: S. Anderson, R. T. Booth, C. W. Holden, T. O. Lauder, H. S. McGill, E. McK. Nichol, A. T. Stanton, L. P. Stephen, E. Wilkinson, and A. W. C. Young.

CHARING CROSS HOSPITAL MEDICAL SCHOOL.—The following entrance scholarships have been awarded:—The Epsom scholarship (115 guineas) to B. F. Eminson; the Livingstone scholarship (100 guineas) to N. C. Lake; *and the Huxley scholarship (55 guineas) to H. Smith.* Entrance scholarships have also been awarded to R. F. Eminson (60 guineas), A. E. Huxtable (40 guineas), and M. Barker (30 guineas). Universities exhibitions of 35 guineas each have been awarded to F. C. Davies, *University of Cambridge*, and E. A. Ramsdon, University of Oxford.

KING'S COLLEGE HOSPITAL MEDICAL SCHOOL.—The following have been elected to entrance scholarships:—Medical entrance for University students, £50, Norman Prescott; Sambroke scholarship (Science), £100, V. E. Negus; Warneford scholarship (Arts), C. H. Attenborough. The following are the awards of scholarships and prizes for the work of the past session: Rabbeth scholarship, S. Ritson; second year scholarship, S. Hoyte; third year scholarship, Basil Hughes; Jelf medal, Basil Hughes; Warneford prizes, H. O. West and V. H. Starr; Tanner prize, J. Browne; Leathes prize, H. O. West; Barry prize, H. A. Moody; Hughes memorial prize, Basil Hughes.

ROYAL SANITARY INSTITUTE.—A provincial sessional meeting of this institute will be held at the Council Chamber, *Town Hall, Victoria-street, Belfast, to-day (Friday, Oct. 5th)* at 7.30 P.M., when a discussion will take place on the "Sewage Purification Problem, with special reference to Sewage Discharge into a Tidal Estuary." The discussion will be opened by Dr. James D. Williamson, vice-chairman of the police committee, Belfast corporation. The Right Hon. Sir Daniel Dixon, Bart, M.P., Lord Mayor, will preside and welcome the members and the chair will be taken during the discussion by *Professor A. Bostock Hill* (member of council of the institute).

ST. MARY'S HOSPITAL MEDICAL SCHOOL.—At the examination for Entrance Scholarships held in September the following awards were made: Open Scholarships in Natural Science: Combined scholarships of £145 and £78 15*s.* were divided between G. Roche Lynch, St. Paul's School, and R. G. Sparkes, Felsted School; and A. Murray Stuart, Cheltenham College, and P. Withers Green, *Epsom College, each took £52 10s.* University Scholarships of 60 guineas each: W. D. Hopkins, B.A., Trinity Hall, Cambridge; and F. G. Caley, B.A., Pembroke College, Cambridge, and G. H. Drew, B.A., Christ's College, Cambridge (equal). The Epsom College Scholarship (value £145) *has been awarded* to T. W. W. Powell, a student of the College, on the nomination of the *headmaster.*

MIDDLESEX HOSPITAL MEDICAL SCHOOL.—The following scholarships, prizes, &c., were awarded during the session 1905–06:—Practical pharmacy: S. J. Lee (prize). Chemistry: E. W. Hall and S. L. Tressider (equal) (prize). Biology: R. C J. Douty (prize); and E. W. Hall (certificate). Organic chemistry: G. O. Teichmann (prize); and R. W. Annison, A. O. English, B. S. Simmonds, and P. S. B Langton (certificates). Histology: R. W. Annison and A. O. English (equal) (prize); G. O. Teichmann and G. de H. Dawson (certificates). Physiology: R. W. Annison (prize); and A. O. English (certificate). Practical anatomy: J. B. Tackaberry (prize); and G. de H. Dawson and H. G. Kilner (certificates). Anatomy: H. G. Kilner and J. A. Rose (equal) (prize); and J. B. Tackaberry, G. O. Teichmann, G. de H. Dawson, and B. S. Simmonds (certificates). Pathology: R. M. Peake (prize); and W. Gilliatt, F. R. Smyth, C. H. S. Webb, and H. J. Woods (certificates). Bacteriology: E. L. Kennaway and C. F. Robertson (prize); S. H. Griffiths and S. Slade (certificates). Forensic medicine and public health: E. L. Kennaway (prize); and D. Wainwright (certificate). Psychological medicine: C. H. S. Webb (prize). Practical midwifery: R. M. Reake (prize); C. F. Robertson (certificate). Practical surgery: C. F. Robertson (prize). Practical medicine: J. T. Daly (prize); and W. Gilliatt, F. R. Smyth, C. H. S. Webb, and H. F. Woods (certificates). Midwifery: C. H. S. Webb (prize); and D. Wainwright (certificate). Medicine: E. L. Kennaway (prize). Second *year's exhibition*, H. G. Kilner; Leopold Hudson prize, M. L. Hine; Lyell medal and scholarship, A. O. Morson; *the Governors'* prize, M. L. Hine; Hetleyclinical prize, M. L. Hine; Freeman scholarship, F. E. W. Meadows; Broderip scholarship, M. L. Hine and F E W. Meadows; *Entrance scholarship in arts*, E. W. Wilson; Entrance scholarship in science, R. C. J. Douty; University scholarship, no award; and Freer Lucas scholarship, G. E. S. *Ward.*

DEVON AND EXETER DENTAL HOSPITAL.—Mrs. Nosworthy, of Dawlish, formally opened the new premises of the Devon and Exeter Dental Hospital on Sept. 28th in the presence of a large gathering. The new building was a gift from Mrs. Nosworthy and the committee appeals for a sum of £500 to defray the cost of furnishing.

PRESENTATION TO A MEDICAL PRACTITIONER.—At the Seamen's Institute, Portishead, on Sept. 21st, Mr. Charles A. Wigan, M.D. Durh., M.R.C.S. Eng., L S.A., was presented with a fountain pen by members of the class of the St. John Ambulance Association held in connexion with the Seamen's Institute in appreciation of his services as honorary lecturer.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.—The next meeting of the Northern and Midland Division of this association will be held, at the invitation of the committee of the David Lewis Epileptic Colony, at the Colony, Sandle Bridge, near Alderley Edge, Cheshire, on Thursday, Oct. 11th, at 2.30 P.M. The chairman of the committee, Mr. S. L. Helm, kindly invites members to lunch on the day of the meeting and it is proposed that members should dine together at the Midland Hotel, Manchester, should a sufficient number intimate their intention of being present.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta street, Covent Garden, London, W.C.

Clinical Lectures on Enlargement of the Prostate With a Description of the Author's Operation of Total Enucleation of the Organ. By P. J. Freyer, M.A, M.D., M.Ch., Surgeon to King Edward VII.'s Hospital for Officers and to St. Peter's Hospital, late Examiner in Surgery at the Durham University, Lieutenant-Colonel, Indian Medical Service (retired). Third edition, Price 6s. net.

On Retro peritoneal Hernia. Being the "Arris and Gale" Lectures on "The Anatomy and Surgery of the Peritoneal Fossæ," delivered at the Royal College of Surgeons of England in 1897. By B. G. A. Moynihan, M.S., F.R C.S. Second edition, revised and in part rewritten by the author and J. F. Dobson, M.S., F.R.C.S. Price 7s. 6d. net.

GLAISHER, HENRY J., 57, Wigmore-street, London, W. (WILLIAM WOOD AND COMPANY, New York.)

Clinical Lectures on Neurasthenia. By Thomas D. Savill, M.D. Lond., Physician to the West-End Hospital for Diseases of the Nervous System, London, and to the St. John's Hospital for Diseases of the Skin. Third (revised and enlarged) edition. Price 7s. 6d. net.

METHUEN AND CO., 36, Essex-street, Strand, London, W.C.

Plant Life. Studies in Garden and School. By Horace F. Jones, F.C.S., late Assistant Instructor to Wilts County Council Nature Study Courses, and Lecturer in Nature Study, County Secondary School, Calne, Wilts. Price 3s. 6d.

SMITH, ELDER, AND CO., 15, Waterloo-place, London, S.W.

On the Principles and Exact Conditions to be Observed in the Artificial Feeding of Infants: the Properties of Artificial Foods; and the Diseases which Arise from Faults of Diet in Early Life. By W. B. Cheadle, M.A., M.D. Cantab., F.R C.P., Consulting Physician to St. Mary's Hospital and to the Hospital for Sick Children, Great Ormond street. Sixth edition. Edited and revised by F. J. Poynton, M.D. Lond., F.R.C.P. Price 5s.

SPRINGER, JULIUS, Berlin.

Tuberkulose-Arbeiten aus dem Kaiserlichen Gesundheitsamte 6. Heft. Deutsche Heilstätten für Lungenkranke. Geschichtliche und statistische Mitteilungen. III. Berichterstatter: Dr. Hamel, Regierungsrat im Kaiserlichen Gesundheitsamte. Price not stated.

UNWIN, T. FISHER, 1, Adelphi-terrace, London, W.C.

How to Buy a Business. A Guide to the Purchase of Retail and Other Businesses; Professional Practices, &c. With a Supplementary Chapter on Partnerships. By A. W. Bromley. Price 2s. 6d. net.

WOOD, WILLIAM, AND CO., New York.

American Practice of Surgery. A Complete System of the Science and Art of Surgery, by Representative Surgeons of the United States and Canada. Editors: Joseph D. Bryant, M.D., and Albert H. Buck M.D., of New York City. Complete in eight volumes Vol. I. Price per volume, $7, $8, or $9, according to binding.

WYMAN AND SONS, LIMITED, Fetter-lane, Fleet-street, London, E.C.

Lessons on Elementary Hygiene and Sanitation, with Special Reference to the Tropics. By W. T. Prout, C.M.G., M.B., C.M. Edin.; Principal Medical Officer, Sierra Leone, Member of Legislative Council; Medical Officer of Health, City of Freetown; &c. Printed for the Colony of Sierra Leone. Price not stated.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ATTWOOD, R. D., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer and Public Vaccinator to the No. 5 District of the Royston Union.

BAILIE, H. W., L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Superintendent Medical Officer of Health of Belfast

BERGIN, FRANK GOWER, L.R.C.P. Lond., M.R C S., has been appointed House Surgeon at the Bristol General Hospital.

BINGHAM, S. C, M.R.C.S, L.R.C.P. Lond, has been appointed Medical Officer of Health to the Alfreton District Council.

DANIELS, C. W., M.B. Cantab., M.R.C.S. Eng., has been appointed Physician to the Out-patient Department at the Seamen's Hospital Society, with duties at the Branch Hospital, to which is attached the London School of Tropical Medicine.

EDWARDS, ALBERT DAVIES, B.Sc. Lond., L R C.P. & S. Edin., L.F.P.S. Glasg., L S A., has been appointed Resident Medical Officer at the Cardiff Workhouse.

ESKELL, LOUIS BENJAMIN, L.D S. Irel., has been appointed Honorary Dental Surgeon to the Winsley Sanatorium.

FISCHER, GEORGE ALFRED, M.B., B.S. Adelaide, has been appointed Honorary Surgeon to the Ear and Throat Department, Adelaide Hospital, South Australia.

GILES, WILLIAM ANSTEY, M.B., Ch.M. Edin., has been appointed Honorary Surgeon to the Adelaide Hospital, South Australia.

GREEN-ARMYTAGE, V. B., L.R.C.P. Lond, M.R.C S, has been appointed Casualty Officer at the Bristol Royal Infirmary.

HAMILTON, A. A., M.B, Ch.B. Dub., has been appointed Honorary Assistant Physician to the Adelaide Hospital, South Australia.

HAYWARD, W. T., M.R.C.S. Eng., L.K.Q.C.P. Irel., has been appointed Honorary Physician to the Adelaide Hospital, South Australia.

MACDIARMID, R. C., M.B., M.S. Glasg., D.P.H., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Alyth District of the counties of Perth and Forfar.

MAPLETON, HENRY BANBURY, M.D., C M. Edin., D.P H. Lond., has been re-appointed Medical Officer of Health for the Newton Abbot (Devon) Rural District (for three years).

MORRIS, LEONARD NEWSOM, L.R.C.P. Lond., M.R C.S, has been appointed House Physician at the Bristol General Hospital

NIESCHE, F. W., M.D. Edin., has been appointed Honorary Physician to the Adelaide Hospital, South Australia.

PINNIGER, WILFRID JAMES HUSSEY, M.B., B S. Lond., L.R.C P. Lond., M.R.C.S., has been appointed Casualty Officer at the Bristol General Hospital.

POULTON, BENJAMIN, M.D. Melb., M.R.C S. Eng., has been appointed Honorary Surgeon to the Adelaide Hospital, South Australia.

SANDWITH, FLEMING M., M.D. Durh., F.R C P. Lond., has been appointed Physician to Out-patients at the Seamen's Hospital Society, with duties at the Branch Hospital, to which is attached the London School of Tropical Medicine.

SHAW, ERNEST H., M.R.C.S., L.R.C.P. Lond., has been appointed Casualty Officer, Pathologist, and Registrar to the Metropolitan Hospital.

SHEPHERD, ARTHUR EDMUND, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed Honorary Consulting Surgeon to the Adelaide Hospital, South Australia.

SMITH, FRANCIS SHINGLETON, M.C. Cantab., L.R.C.P. Lond., M R.C S, has been appointed House Surgeon at the Weston-super-Mare Hospital.

STOREY, JAMES ALEXANDER, L.R.C.P. Edin., L.R.C.S. Irel, has been appointed Medical Officer to the Dunstable and District Joint Isolation Hospital.

SWIFT, HARRY, M.D. Cantab., has been appointed Honorary Assistant Physician to the Adelaide Hospital, South Australia.

SYKES, ARTHUR, L R.C.P. Lond., M.R C.S., has been appointed Resident Medical Superintendent at the City Asylum, Norwich.

TAYLOR, MARK RONALD, L.R.C.P. Lond., M.R.C.S, has been re-appointed Medical Officer for the Wendron District by the Helston (Cornwall) Board of Guardians.

WATSON, ARCHIBALD, M.D. Paris, F.R.C.S. Eng., has been appointed Honorary Pathologist to the Adelaide Hospital, South Australia.

WILSON, M. R. C., L.R.C.P. Lond., M.R C.S, has been appointed Assistant House Physician at the Bristol General Hospital.

WRIGHT, A. J., L.R C.P. Lond., M.R.C.S, has been appointed Junior House Surgeon at the Bristol Royal Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BRIGHTON, SUSSEX COUNTY HOSPITAL.—Senior House Surgeon. Salary £100 per annum, with board and residence

BURY ST. EDMUND'S, WEST SUFFOLK GENERAL HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Surgeon, unmarried. Salary £90 a year, with board and lodging.

CAPE TOWN, SOMERSET HOSPITAL.—Assistant Resident Medical Officer. Salary £200 per annum, with quarters and rations.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

FINSBURY DISPENSARY, Brewer-street, Goswell-road, E.C.—Resident Medical Officer. Salary £140 per annum, with furnished residence, attendance, &c.

HAMMERSMITH INFIRMARY AND WORKHOUSE, Ducane-road, Wormwood Scrubs, W.—Assistant Infirmary Medical Superintendent and Assistant Medical Officer. Salary £150 per annum, with board, apartments, washing, and attendance.

HAMPSTEAD GENERAL HOSPITAL.—Resident Medical Officer for six months. Salary £80 per annum, with board and residence.

HOSPITAL FOR WOMEN, Soho square, W.—House Physician for six months. Salary £30.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House Surgeon, unmarried. Salary £120 without board, or £80 with board, and £20 extra for dispensing.

LEEDS PUBLIC DISPENSARY.—Honorary Medical Officer.

LEICESTER INFIRMARY.—Assistant House Surgeon. Salary £50 per annum, with board, apartments, and washing. Also Resident Surgical Dresser for six months. Honorarium £10 10s., with board, lodging, and washing.

LINCOLN COUNTY HOSPITAL.—Junior House Surgeon (unmarried) for six months. Honorarium £25, with board, residence, and washing.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN, 8, Hunter-street, Brunswick-square, W.C.—Mabel Webb Research Scholarship in Pathology, Physiology, and Chemistry. Value £30 a year.

MARGATE, ROYAL SEA BATHING HOSPITAL.—Resident Surgeon.

MEDICAL DEPARTMENT OF THE ROYAL NAVY.—Examination for not more than Six Commissions.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Surgeon. Also Assistant Surgeon.

NOTTINGHAM, CITY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, &c.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician and House Surgeon, for six months. Salary at rate of 50 guineas a year, with board and residence.

ROYAL DENTAL HOSPITAL, Leicester-square, W.C.—Demonstrator of Practical Dental Surgery. Stipend £40.

SHEFFIELD, CITY OF.—Visiting Medical Officer for Schools. Salary £400 per annum.

STAMFORD HILL AND STOKE NEWINGTON DISPENSARY.—Junior Resident Medical Officer. Salary £100 a year with apartments and board.

TOTTENHAM HOSPITAL, London, N.—House Surgeon, House Physician, and Casualty Officer. Salaries £40 per annum respectively, with residence, board, and laundry.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Cummock, in the county of Ayr, and at Southall, in the county of Middlesex.

Births, Marriages, and Deaths.

BIRTHS.

ANDERSON.—At Newholme, Pitlochry, on the 30th Sept., the wife of John Anderson, M.B. & C.M. Edin., of a daughter.

BALDERSTON.—On Sept. 30th, at Westbourne-road, Forest Hill, S.E., the wife of Robert Balderston, M.B., of a daughter.

GOUGH.—On Sept. 25th, at Compton Martin, near Bristol, Somerset, the wife of Bernard Bradly Gough, M.R.C.S., L.R.C.P. Lond., of a daughter.

KENT.—On Oct. 1st, at Swiss Cottage, Dover, the wife of Charles A. Kent, M.D., of a son.

MARTIN.—On Oct. 1st, at The Chestnuts, Stroud, Glos., the wife of J. Middleton Martin, M.D., of a daughter.

MAY.—On Sept. 26th, at Park Mansions, Knightsbridge, the wife of W. Page May, M.D., of a daughter.

POTTS.—On Sept. 30th, at Wellesley-road, Great Yarmouth, the wife of Horace Potts, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

POYNDER.—On Sept. 7th, at Newbury, the wife of Lieutenant-Colonel J. L. Poynder, I.M.S., of a son.

MARRIAGES.

BIGG—HEWETT.—At St. Stephen's Church, Westbourne Park-road, W., on the 2nd inst., by the Rev. Charles Bigg, D.D., Canon of Christ Church and Regius Professor of Ecclesiastical History, Oxford, uncle of the bridegroom, assisted by the Venerable C. F. H. Johnston, M.A., late Archdeacon of Bombay, Edward Bigg, M.A., B.C. Cantab., L.R.C.P., M.R.C.S., of Cranleigh, Surrey, only son of the late Edward Bigg of Liverpool and Bombay, to Agatha Gertrude, second daughter of Edward Hewett, of 22, Prince's-square, W., formerly of Bombay.

DE CASTRO—LYNN.—On Sept. 26th, at St. Anselm's Church, Davies-street, Berkeley-square, George de Castro, M.R.C.S. Eng., L.R.C.P. Lond., to Lucy, youngest daughter of the late Palmer Lynn of Brighton.

TEASDALE—MCDOWELL.—On Sept. 27th, at the Cathedral, Waterford, by the Right Rev. the Lord Bishop of Cashel, assisted by the Very Rev. the Dean of Waterford, John Camidge Teasdale, M.B., M.R.C.S. Eng., of Retford, to Marion, daughter of the late D. McDowell, Esq., and of Mrs. McDowell, of Waterford, Ireland.

DEATHS.

CROMBIE.—On Sept. 29th, Brigade-Surgeon-Lieutenant-Colonel Alexander Crombie, C.B., M.D., I.M.S., retired, aged 60 years.

PHILLIPS.—On the 29th ult., at Ilchford, Warwickshire, Frank Leslie Phillips, M.D., aged 49 years.—R.I.P.

STEWART.—On Sept. 28th, at Angelton, Bridgend, Robert S. Stewart, M.D., D.P.H.

THOMASON.—On Sept. 24th, at Drybridge House, Hereford, Richard Thomason, M.R.C.S., L.S.A., J.P., aged 77 years.

VISGER.—On Sept. 26th, at Lewisham, Harman Visger, M.R.C.S., only son of the late Harman Visger of Bristol, aged 58.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

OUR FORGOTTEN DEAD.

WE have received the following communication for publication, which is interesting both on account of its intrinsic information and in view of a recent correspondence in the daily press concerning the legibility of the inscriptions on tombstones earlier than the eighteenth century. We have restored the Latin verses to the best of our ability but, as our correspondent implies, the copy of them sent was extremely corrupt and our emendations in most cases are very conjectural. In the eighth line it will be noted that the original composer of the inscription has been guilty of a false quantity and in line 9 "rediento," of course, should be "redeunte." There are various interesting points in the mortuary inscription of William Parmentier. One is the Italianised spelling of "jacent"; another is the use of the word "aera," which was not used in the sense of "era" before, apparently, the time of Isidorus, A.D. 637. The words "Medicatorum" and "Britanniorum" would be better Medicorum and Britanicorum. We have been unable to find anything about either Edmund Frank or William Parmentier, although the registrar and secretary respectively of the London Royal Colleges of Physicians and Surgeons have been good enough to search their annals to help us.

To the Editors of THE LANCET.

SIRS,—In a little used and rarely visited graveyard on the hill above Pera are a number of headstones which were moved some 40 years ago from the original English cemetery in Constantinople. These stones were rescued from oblivion and by the kindly hands of the Rev. Mr. Anketell, late chaplain to the British Embassy, were carefully arranged around the walls of the Feri Keui cemetery. Many have an almost historic interest, recording as they do the virtues of original members of the Right Worshipful Levant Company. Amongst them are three which I venture to think may be worthy of a passing notice in your columns. I do not know whether the annals of the Colleges of Physicians or of Surgeons contain the names of Edmundus Frank who died here in 1647 or of William Parmentier who died in 1768, but that George Barron Brown who was laid to rest in 1858 was an older brother of the late Mr. Lennox Browne, the throat specialist of our days.

I have copied the inscriptions to the best of my ability but they are becoming as illegible as my Latin is faulty; I trust you may be able to translate them.

I am, Sirs, yours faithfully,
C. B. NORMAN.

Constantinople.

Hic situs est EDMUNDUS FRANK.
Generosus Anglus Londini
Natus Med. D. Clarissimus
Qui post annos sedecim
Constantinopoli cum laude
Exactos obijt Jan^o 4^o
An. Xti 1647.
Herbipotens jacet hoc Franckus sub marmore clausus,
Quo vix Paeon plenior artis erat.
Invida mors toties hujus retro acta medelis
Contra ipsum vires exserit illa suas.
Nec tunc ausa palam est in aperto Marte, sed illi
Subdola letiferas clam struit insidias.
Sublato victore suo, nunc illa triumphat,
At posthac illi (? isti) quoque triumphus erit.
Archiatro siquidem Christo rediente canore
Ingenti, audibit Plaudite! mors obiit.

Hic giacent Reliquiae
GIULELMI PARMENTIER GENEROSI
Ex societate Medicatorum Britanniorum
Galata Constantinopolis
Natus est die XXIV Martii anno
Aerae Christianae MDCCXX
Obiit die XI Octobris Anno
Ejusdem MDCCLXVIII
Morte intempestiva vir morum
Probus et mansuetus
Cognatis et familiaribus deploratus
Johanna conjux dilecta
Monumentum hoc
Moerore posuit.

Sacred to the Memory
Of
GEORGE BARRON BROWN
Medical Officer
In the Turkish Service
Eldest son
Of Isaac Baker Brown Esqr:
of London
Died on the 11th day of January 1858
at Constantinople.

CIRCULARS AND ADVERTISEMENTS.

To the Editors of THE LANCET.

SIRS,—Considering the vast number of monographs, descriptive advertisements of medicinal preparations, &c., which are showered at the present time on members of the medical profession, it is desirable both in the interests of the advertisers and those whom they seek for clients that these documents should have a *uniform format*, both in size (I suggest medium 8vo) and in quality of paper (not too thick) so that those which have any permanent value may, either by binding or otherwise, be preserved together. The above suggestion is calculated to benefit other professions than the medical, but with these I am not concerned.

I am, Sirs, yours faithfully,
Strawberry-hill, Sept. 29th, 1906. *G. P. Best*, *M.B. Cantab.*

A COINCIDENCE.

To the Editors of The Lancet.

Sirs,—During last year a very curious coincidence occurred in my practice—three practitioners, all strangers to one another, whose names appear consecutively in the Medical Directory, being in consultation on the same case, a railway accident. The surnames were all the same and each Christian name was Frederick, one being the railway surgeon, one a consultant to a London hospital as expert, and the other myself. I am, Sirs, yours faithfully,

Newington-causeway, S.E., Sept. 26th, 1906. Fredk. W. Smith.

THE NEW SPELLING.

To the Editors of The Lancet.

Sirs,—On page 818 of The Lancet I read: "*Some will wonder why 'lachrymal' should become 'lacrimal' except with a view to conceal more effectually its origin.*" Surely the Latin origin of this word is *effectually concealed by spelling it "lachrymal"?*

I am, Sirs, yours faithfully,
Sept. 21st, 1906. Oxoniensis.

*** Johnson gives "lachrymal" in his dictionary. The correct Latin form, according to both Facciolati and Lewis and Short, is "lacrima," or old form "lacruma." Facciolati gives all derivatives as "*lacry-*." *Lewis and Short, who say "not lacryma,"* however, give lacrimosus, or lacru- or lacry-. Lacruma, is often stated to be derived from *δάκρυ* and *d* and *l* were interchangeable in Greek and Latin; cf. *ἄλειφαρ*, adeps. The new Oxford English Dictionary gives "lachrymal" under that spelling with all words similarly derived, referring back to it under "lacrymal." As to the etymology Dr. Murray says: "The *ch* of the prevailing spelling of this and the related words is due to the Middle Latin practice of writing *ch* for *c* before the Latin *r*; compare anchor, pulchritude, sepulchre. The *y* in Middle Latin, *a mere graphic variant of i*, has been retained in modern English orthography from the erroneous notion that lacrima is an adoption of Greek *δάκρυμα*. The theoretically correct spelling lacrim- has at present no currency but some writers have adopted the half correction lacrym-." Dr Murray describes these words as "cognate with *δάκρυ*" but does not evidently regard them as, strictly speaking, derived from it and the "simplified spelling" *is the more correct etymologically although it departs from* a well established usage.—Ed. L.

LOOKING BACK.

To the Editors of The Lancet.

Sirs,—My attention has been drawn to the reprinted letter which appeared in your last issue under this heading. There can, I am sure, be nothing more amusing and delightful than the reprint of interesting records of the past, but the letter to which I allude can only be described as a vulgar and offensive libel, and not even amusing at that. I venture to think that if the researches into the archives of your valuable paper were conducted with a little more good taste and discretion many of your readers would be far better pleased.

I remain, your obedient servant,
A. Mowbray Upton, Clerk to the Society.
Society of Apothecaries of London, Blackfriars,
London, E.C., Oct. 3rd, 1906.

*** The extract in question was not, we need hardly say, inserted with any *intention of hurting the feelings* of the Clerk to the Society of the Apothecaries or of anyone connected with that ancient and excellent institution. The fact that abuses existed in 1828 surely is not likely in any way to lower the estimation in which the Society is rightly held in 1906 by reason of the good work which it has since done and is now doing.—Ed. L.

A WARNING.

To the Editors of The Lancet.

Sirs,—A gentleman practising in Maida Vale has just informed me that a man who passed himself off as me called on him and obtained a small sum of money. The police have been communicated with, but a timely warning published here may save annoyance.

I am, Sirs, yours faithfully,
R. Kirkpatrick.
British Museum (Natural History), S.W., Sept. 28th, 1906.

THE USE OF ALCOHOLIC FLUIDS IN MEDICINE.

To the Editors of The Lancet.

Sirs,—In a well-known medical publication of this month there are some strongly worded "notes" on the prevailing "fashion" of the profession in its attitude towards the alcohol question. *From time to time* I have made an honest if feeble effort to plead for the value of clinical experience in this matter as opposed to that of pure physiological research. I cannot believe that Sir Victor Horsley really voiced *the opinion of the majority of practical clinicians in his speech at the* meeting of the British Medical Association. It is hardly creditable to us as a *profession that the public should find us apparently so absolutely* at variance on a matter of such prime importance to them and to us. Is it not high time that an authoritative commission were *appointed* to inquire into the question in all its bearings and publish their findings to the world at large? I am, Sirs, yours faithfully,

Brighton, Oct. 1st, 1906. A. H. Copeman.

A DEPARTURE IN AGENCY ROUTINE.

To the Editors of The Lancet.

Sirs,—With reference to your remarks in The Lancet of Sept. 29th we are unable to recognise the "Departure in Agency Routine" you refer to. It is usual *for agents to charge commission* on payments made by resident patients introduced and the only "departure" of which we are guilty is in charging about 50 per cent. less than other agents. At the same time we shall be grateful for any criticism that you and your correspondents are good enough to make in order that we may meet the views expressed by the profession. Our anxiety is to give the best possible work as agents at the lowest possible cost to practitioners.

I am, Sirs, yours faithfully,
H. G. Salter, Secretary.
The Southern Medical and Scholastic Agency, Limited,
Oct. 2nd, 1906.

A FALLING BIRTH-RATE?

To the Editors of The Lancet.

Sirs,—On Oct. 16th, 1905, I attended a young married woman, aged 20 years, and delivered her of twin girls. Last Tuesday, Sept. 25th, 1906, *I delivered her of twin boys.* She has thus four babies considerably under 12 months old. I do not know if this establishes a record of the kind. Some years ago (with my brother, since dead) we delivered a woman of triplets, two of whom are still alive and flourishing, but that is nothing in my mind to this case. The husband is only an agricultural labourer and I am raising a small local subscription. If any of your readers care to spare a shilling or two for this case *I shall be glad to acknowledge the amount personally and through* your columns I may add that this morning mother and all four children were very well.

I am, Sirs, yours faithfully,
Loddon, Norwich, Oct. 1st, 1906. J. Lyndsay Rodwell.

◆

Mr. J. E. Storey.—*The Horace Dobell lecture is delivered every two* years.

Communications *not noticed in our present issue will receive attention* in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (8th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (9th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), *Children, Gt. Ormond-street* (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (10th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), *Charing Cross* (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (11th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. *Ormond-street* (2.30 P.M.).

FRIDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), *St. George's* (1 P.M.), *King's College* (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (13th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (8th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8 P.M.: Annual Meeting. 8.30 P.M.: Introductory Address:—Mr. C. A. Ballance (Incoming President): Then and Now in Surgery. Paper:—Mr. T. H. Kellock: Actinomycosis of the Vermiform Appendix.

WEDNESDAY (10th).—DERMATOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish square, W.).—5.15 P.M.: Meeting.

HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M.: Hunterian Lecture:—Dr. J. K. Fowler: The Diagnosis and Treatment of Thoracic Aneurysm.

THURSDAY (11th).—BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M.: Specimens will be shown by Mr. F. B. Jessett (President), Dr. H. Macnaughton Jones, and Dr. H. Overy.

HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne street, Edgware-road, W.).—8.30 P.M.: Papers:—Dr. A. Morison: The Cardio-Vascular State in Asphyxia Neonatorum and its Management.—Mr. H. T. Herring: Easy Methods of Sterilising Urethral Instruments.

NORTH-EAST LONDON CLINICAL SOCIETY (Tottenham Hospital, N.).—4 P.M.: Address:—Sir Halliday Croom: The Obstetrical and Gynæcological Relations to Exophthalmic Goitre.

FRIDAY (12th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M.: Address:—Mr. H. H. Clutton (President): Adolescent (late) Rickets (illustrated by lantern slides and cases). Followed by a Discussion.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (8th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. Diseases of the Eye.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M.: Dr. J. Galloway: Clinique. (Skin.) 5.15 P.M.: Lecture:—Mr. J. Cantlie: Hepatic Abscesses met with in Britain.

TUESDAY (9th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Diseases of the Skin.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. C. T. Williams: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. J. Morison: The Indications for Instrumental Interference in Labour.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Beevor: Cerebral Anatomy and Localisation.

CHARING CROSS HOSPITAL.—4 P.M.: Mr. Waterhouse: Demonstration (Surgical) (Post-Graduate Course.)

WEDNESDAY (10th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. 4.30 P.M.: Lecture:—Mr. C. B. Keetley: Opening Address of Winter Session.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. A. H. Tubby: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. H. L. Jones: Rodent Ulcer and its Treatment by Zinc Ions.

THURSDAY (11th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations. Diseases of the Eye. 5 P.M.: Lecture:—Practical Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. C. Mercier: Some Aspects of Drunkenness.

CHARING CROSS HOSPITAL.—4 P.M.: Dr. Macleod: Demonstration (Dermatological). (Post-Graduate Course.)

FRIDAY (12th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Diseases of the Skin. 5 P.M.: Lecture:—Surgical Cases.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. StClair Thomson: Clinique. (Throat.)

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. Beevor: Cerebral Anatomy and Localisation.

SATURDAY (13th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. 2.30 P.M.: Operations.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

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One Year	£1	12	6	One Year	£1	14	8
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Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 4th, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Sept. 28	30·52	S.	...	63	62	45	49	50	Foggy
" 29	30·30	S.E.	...	88	64	48	49	51	Foggy
" 30	30·25	N.	0·37	94	66	49	49	52	Foggy
Oct. 1	30·03	S.	0·33	101	70	49	54	56	Overcast
" 2	29·75	S.W.	...	71	64	55	61	62	Raining
" 3	29·74	N.W.	...	92	64	57	55	58	Cloudy
" 4	29·95	S.W.	...	102	65	55	55	55	Fine

DURING the week marked copies of the following newspapers have been received: *Westminster Gazette, The Tribune, Glasgow Herald, Leicester Post, Cardiff News, Sheffield Telegraph, Sheffield Independent, Yorkshire Herald, Dublin Times, Stafford Sentinel, Belfast Whig, Cardiff Times, Watford Observer, Revue Scientifique, Revue Française de Médecine et de Chirurgie, Belfast News, Hereford Times, &c.*

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A Clinical Lecture

ON

A CASE OF INFECTIVE ENDOCARDITIS INVOLVING THE PULMONARY VALVES AND ASSOCIATED WITH IMPERFECTION OF THE INTERAURICULAR SEPTUM.[1]

Delivered at the General Infirmary, Leeds, January, 1905,

BY T. WARDROP GRIFFITH, M.D. ABERD., M.R.C.P. LOND.,

PROFESSOR OF ANATOMY IN THE UNIVERSITY OF LEEDS; HONORARY PHYSICIAN TO THE GENERAL INFIRMARY AT LEEDS.

GENTLEMEN,—The case which I have to bring to your notice this afternoon is one which presented during life some points of interest and one in which important lessons may be drawn from a consideration of the physical signs observed when viewed in the light of the conditions demonstrated on the post-mortem table. The patient was a girl, aged 15 years, who, when walking home from her work and to all appearances in good health, was on May 25th, 1904, suddenly seized with pain in the back. With some difficulty and with increasing pain she got home, was sick once or twice after partaking of milk and biscuits, and feeling very ill went to bed, where she remained until she was admitted into the infirmary under my care on June 11th. Subsequent questioning of the patient's mother elicited the fact that about a week prior to the onset of the acute symptoms she complained one day of feeling short of breath and sat down for a little time and was noticed to be slightly flushed. During the next few days there were slight symptoms of indigestion but on the evening of May 24th she was dancing vigorously in the street to the strains of a piano organ and on the morning of the attack she went to her work in good spirits and apparently quite well. On the sixth day after taking to bed she had a rigor and this was followed by about four others before she was admitted into the infirmary. The patient was the fourth child in a family of eight, the other members of which were reported as being in good health. She had diphtheria when at school and some tonsillar trouble on two occasions, but there was no history of rheumatism, and her general health had been good.

On admission she was seen by my house physician, Mr. S. T. Crump. She appeared to be fairly comfortable; the temperature was 99·4° F.; there was slight dulness on percussion over the base of the right lung but the breath sounds were readily audible. The heart was beating at about 100 per minute, the first sound at the apex was loud, and there was a systolic bruit limited to the pulmonary area. A few hours after admission a couple of severe rigors occurred in rapid succession, the temperature shot up to 106·6°, dropping to 99°, and in a few hours to 97°, with great sweating and some indication of collapse. It was at this time that I saw the patient first. I noted the dulness on the right side of the chest, but the most pronounced signs were those associated with the heart which was beating with undue frequency and impetuosity. The first sound was extremely loud at the apex, a loud systolic bruit was heard in the pulmonary area followed by an indistinct second sound, but both sounds were clear in the aortic area. The opinion was at once formed that we had before us a case of infective endocarditis with involvement of the pulmonary valves, and the opinion was daily strengthened by the progress of the case. Departing now from the strict order in which the symptoms and signs were noted I call your attention to the temperature chart. The course of the fever was hectic. Rigors to the number of 11 occurred subsequently at irregular intervals until June 22nd. During this period the oscillations of temperature were extreme, the limits being 106·6° and 95°, and the chart presents, as you see, the characteristic "steeple" appearance. It is interesting to note that on the cessation of the rigors the high temperature was more continuous, did not reach such high maxima, and on only one occasion fell below 100°. On June 16th we noted a diastolic bruit loudest in the pulmonary area. This was inaudible next day, but was again made out on the 20th and subsequently. A striking feature in the case, which was noticed many times, was that the bruits were undoubtedly loudest in the pulmonary area. The systolic bruit was audible at the apex and round towards, if not actually in, the axilla. In the left scapulo-vertebral interval it was very loud indeed and though not so loud as in the pulmonary area it was here much louder than at the apex. Examination of the blood by Dr. O. C. Gruner on the 22nd revealed a moderate degree of leucocytosis. There was never any cyanosis nor at any time was there albuminuria. Until the 29th the mental condition was remarkably good between the rigors. There were little or no distress and no thought of death, but a frequently expressed desire to get up. Death occurred on July 1st and during the last 36 or 48 hours there was some delirium. The pallor increased, there was slight epistaxis, a few purpuric spots appeared on various parts of the surface, and one considerable subcutaneous hæmorrhage over the right iliac bone. Towards the end there was some increase in the præcordial dulness and pericardial effusion was suspected, but during the last 36 hours it was not felt that much examination should be made and paracentesis was not considered. An enlargement of the spleen which had been noticed earlier became less marked. Some blood was drawn on June 27th for cultural investigation and next day we got a report that after 20 hours' growth the organisms present were found to be streptococci only. Some doubt was, however, thrown on the accuracy of the observation and somewhat to my regret now I did not use antistreptococcic serum.

The necropsy, which many of you saw, was made by myself on July 2nd, some 20 hours after death. Both pleural cavities were obliterated by universal adhesions. These were especially strong on the right side and here several small collections of pus were found in the interstices of the connective tissue. The right lung was dense, especially at the base, but there were no signs of embolism and no hepatisation; the lobes were mutually adherent and the adhesions were infiltrated with pus. The left lung was also dense and airless at the base, more so than in the case of the right, and portions sank in water. At the base was a solid mass which I inclined to attribute to inflammatory consolidation, though it had not the usual appearances presented by recent hepatisation and which I did not think was embolic. The pericardial sac, the walls of which were thickened, contained from about 16 to 20 ounces of blood-stained fluid. There was evidence of recent pericarditis, universal in distribution, in the presence of a fine uniform granular fibrinous deposit on the surface of the heart. Further examination showed that the mitral and aortic valves were entirely free from disease, and that with the exception of one small fibrinous vegetation close to the commissure of its great anterior and septal flaps, the tricuspid had also escaped. There was a large aperture of communication between the right and left auricles, the nature and probable influence of which I shall discuss later. The ductus arteriosus was closed. On inspection before the heart was opened there was seen to be distension of the upper part of the conus arteriosus of the right ventricle and of the adjacent part of the pulmonary artery mainly on its left aspect. This proved to be due to an immense mass of vegetations in connexion with the pulmonary segments, which is well seen in Photograph 1. So completely did this mass at first sight seem to fill the conus and the beginning of the pulmonary artery that it was difficult to understand how any blood could have passed. With some care, however, a probe could be made to pass through fissures in the mass and appear in the pulmonary artery, and between the mass and the antero-right segment which was almost free from disease there was a potential space which in virtue of the blood pressure might have been considerable during life. As already said, the antero-right pulmonary segment was almost free from disease. The antero-left was thickened and everywhere rough from the presence of fungating vegetations which sprang from both its surfaces. It is seen cut across in the illustrations. It was retroverted towards the right ventricle and its condition probably accounted for part of the regurgitation made out during life. The posterior segment was almost unrecognisable until the huge mass of vegetations which sprang from it was cut into, as is shown in Photograph 2. It was seen

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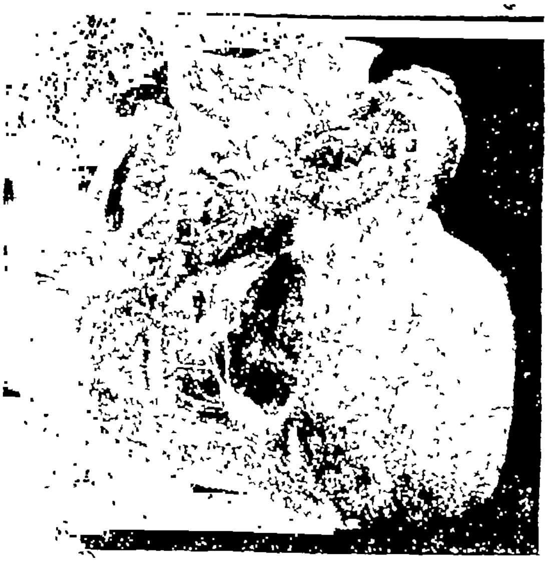
[1] For the photographs illustrating the condition of the heart I am indebted to my friend Mr. Michael A. Teale.

No. 4337.

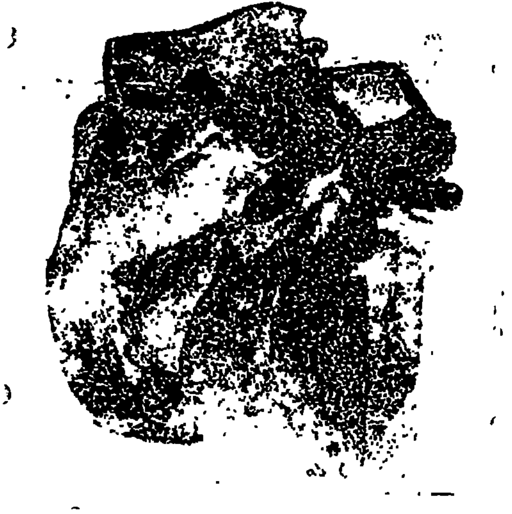
to be greatly thickened and imbedded in the mass of vegetations and partially organised fibrinous exudation, between which and the segment it was impossible to draw a sharp line of demarcation. The sinus of Valsalva was filled with fibrin partly organised and partly fungating, and the wall of the artery at this part had yielded, giving rise to a localised aneurysmal swelling of the size of a hazel-nut. Infective endocarditis is one of the well-recognised causes of aneurysm not only of the sinuses of Valsalva and adjacent parts of the large vessels, of the valves of the heart, and of the pars membranacea septi, but, through the occurrence of infecting embolism, of the smaller arteries of the body. The cavity of the right ventricle was somewhat enlarged and its walls were markedly hypertrophied. The spleen was enlarged, soft, and adherent to the diaphragm; the kidneys were singularly pale and the capsules separated readily.

PHOTOGRAPH 1.



Showing the mass of granulations blocking the pulmonary orifice.

PHOTOGRAPH 2.



Showing the mass of granulations cut through, together with the arterial wall, which is aneurysmal

In discussing with you the various points of interest in connexion with this case I desire, in the first instance, to call your attention to the presence of the large aperture of communication between the two auricles of the heart. This is, of course, a congenital anomaly and it is well therefore that we should discuss its nature and its possible influence on the circulation before we enter on a discussion of the changes which are clearly of recent development. Now each auricle of the heart is derived from one half of the primitive auricle of the embryo, which in the case of the right auricle has incorporated with it the sinus venosus of the systemic veins, and in the case of the left auricle the corresponding but less familiar sinus venosus of the pulmonary veins. The division of the primitive auricle into two is initiated by an expansion of each half of the chamber in association with its increasing function, from which it results that an aperture of communication exists between the two developing auricles, large indeed, but relatively small when compared with the sectional area of each. Now in some cases nature appears to make no further attempt towards the development of an inter-auricular septum, if indeed we may refer to the above changes as constituting any such attempt, and the two auricles remain in free communication by a large aperture limited above and behind by a crescentic ridge with a rounded margin, corresponding to the portion of primitive auricular wall which has not taken part in the bilateral expansion and reaching below to the upper or attached margins of the tricuspid and mitral valves which are then seen to be practically continuous with one another above and behind the interventricular septum, for, as is known, they are developed by downward growth from the endocardial cushions which divide the common auriculo-ventricular channel into two. This arrest of development is, of course, very rare and what usually happens is, according to the well-known researches of Born, that a septum grows downwards with a concave advancing margin from the upper and back part of the common auricle—that is, from the above-noted ridge—and ultimately fuses with the tissue separating the two auriculo-ventricular apertures. Before it does so, however, it becomes fenestrated some distance from its free margin and a large aperture results which becomes modified into the foramen ovale. Now the primary septum, as it is termed, may fail to reach the partition between the two auriculo-ventricular openings and an aperture remains resembling that described above as reaching down to the attached margins of the auriculo-ventricular valves but differing from it in being smaller and in being limited above by the concave margin of the primary septum and not merely by a ridge of auricular wall. Examples of this have been put on record by Dr. Norman Moore,[2] who comments on its rarity, and by myself.[3] The fenestration of the primary septum, which, as we have seen, takes place before its margin reaches its destination, may, instead of forming a single large aperture, result in the formation of a sieve-like membrane or it may leave only a very scanty network of tissue. Confining our attention, however, to the first of these results, the aperture destined to develop into the foramen ovale varies in size, is bounded below by the remains of the primary septum, and therefore does not reach to the attached margins of the auriculo-ventricular valves, and is bounded behind and above either by the crescentic ridge above mentioned or, if any of the primary septum remains at the part, by that membrane. There now grows downwards and forwards from close to the origin of the primary septum a second septum which passes to the right of the oval aperture. This also has a concave advancing margin and, as is well known, forms the annulus ovalis or isthmus Vieussenii, while an upward and backward growth of the lower margin of the oval aperture forms the valve of the foramen ovale and ultimately when this closes, as it usually but not invariably does, the floor of the fossa ovalis. It is interesting to note that these changes in connexion with the formation of the foramen ovale and fossa ovalis may occur, gratuitous though they may then appear, even when the primary septum does not reach the attached margins of the auriculo-ventricular valves. There are several errors in development, therefore, which may lead to there being a communication between the two auricles throughout life. To which of these should the anomaly be attributed in our case? Now the lower and anterior margin of the opening is about three-quarters of an inch from the attached margin of the septal flap of the tricuspid valve and about half an inch from that of the mitral, so it cannot be due either to a complete absence of the primary septum or to the failure of that membrane to reach the partition between the two auriculo-ventricular openings. On the other hand, it is bounded above and behind by the thick crescent-shaped ridge which has already been referred to more than once. I regard it, therefore, as representing the earlier stage in the formation of the foramen ovale and as being due to coalescence of the fenestræ in the primary septum. Careful inspection of the crescentic ridge shows along its margin a very delicate fringe of tissue as if the secondary septum were present in a very rudimentary form. Perhaps one ought not to press for a distinction between this form of deficiency of the septum and a widely patent foramen ovale, but I am led to the attempt by the great size of the opening—which measures one and a half inches by one inch—by the thickness of its margins, by the absence of any growth of tissue to form the valve of the foramen, and by the almost total absence of the secondary septum which should form the annulus.

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[2] Transactions of the Pathological Society, vol. xxxii., p. 40.
[3] Journal of Anatomy and Physiology, vol. xxxiii.

Communications between the two auricles of the heart, even when direct, non-valvular, and of great size, are probably of small importance. It is a common belief that they necessarily lead to cyanosis, but they may be unattended with this symptom or with signs of embarrassed circulation if there be *no obstruction* to the passage of the blood in its normal direction. If in such cases blood does pass from one auricle to the other the flow will probably be from the left auricle to the right and not in the opposite direction, for the pressure of blood in the left auricle is higher both during its systole and during its diastole than in the cavity of the right side. Evidence of the truth of the former statement is provided by the greater thickness of its muscular wall, and during its diastole we must remember that it is filled by the contraction of the right ventricle which forces the blood into it through the pulmonary or lesser circulation, whereas in the case of the right auricle the pressure falls to zero or is actually negative in the great veins from which it receives its blood stream. Some of the blood, therefore, returning from the lungs, which reached our patient's left auricle throughout her life prior to the oncome of her acquired cardiac disease, would pass into the right auricle and so through the right ventricle and pulmonary system a second time. In this way the right ventricle would have a larger amount of blood to deal with than the left, and it is to this that I attribute its dilatation and its consequent adaptive hypertrophy rather than to the condition of the pulmonary orifice found on necropsy, for the latter was manifestly a *recent condition*. In this connexion it is interesting to note that the normal excess of sectional area of the pulmonary artery over that of the aorta was more marked than usual, and that this is a relationship that has been frequently noticed in cases of imperfect cardiac septa which have been unaccompanied by cyanosis. Clearly, therefore, the condition was one which was *not conducive* to the occurrence of cyanosis, for some of the blood must actually have traversed the pulmonary system at least twice to every single circuit it made of the general system. (Figs. 1, 2, and 3.)

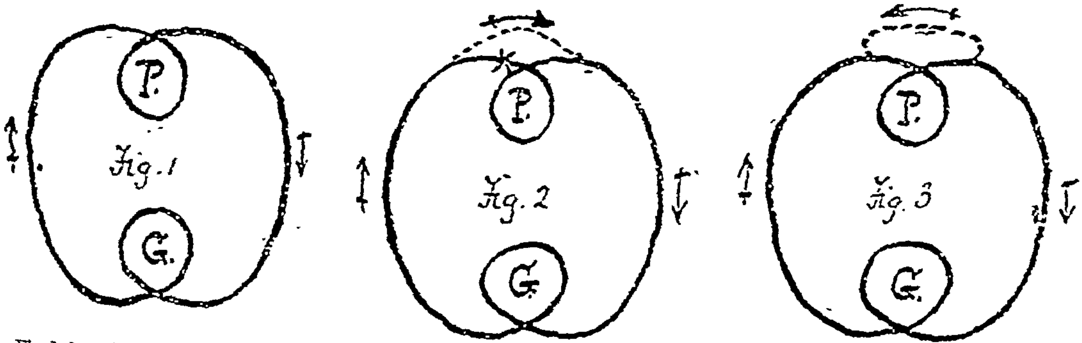

Fig. 1 shows the normal condition in which the auricular septum is complete and in which, therefore, all the blood returning from the general system, G, is constrained to pass through the pulmonary system, P.
In Fig. 2, where there is deficient septum or patent foramen ovalè and some obstruction to the flow of blood through the lungs, such as pulmonary stenosis, indicated by the ×, some of the blood will make the shorter circuit from the right auricle to the left, indicated by the dotted line.
In Fig. 3 where there is not any obstruction to the flow of blood through the lungs, the current of blood will, as explained in the text, be from the left auricle to the right, through the deficiency in the septum.

With the supervention of the pulmonary valvulitis, the consequent pulmonary obstruction, and the increase of pressure in the right side of the heart it is clear that the flow of blood from the left auricle to the right would cease and be succeeded by a flow in the opposite direction. It is not so easy to explain the continued absence of cyanosis under these new conditions. It is, I believe, well established that a considerable admixture of venous with arterial blood may occur without cyanosis unless there be at the same time some obstruction to the flow. In our patient the tendency to its development may have been lessened by the progressive anæmia which was marked and by the condition of absolute rest with consequent muscular relaxation which was maintained. We have, indeed, seen that during life more blood may have passed along the pulmonary artery than at first sight would appear compatible with the conditions about its orifice and we must not forget that the driving force behind the pulmonary obstruction was that of a right ventricle which had been accustomed throughout life to do an extra amount of work for the reasons I have already tried to explain. Still, it is very remarkable that with a condition of pulmonary obstruction such as we have seen and in the absence of any assistance to the circulation of the blood through the lungs such as might be afforded by a patent ductus arteriosus, for this was closed, it was possible to note up to within a few hours of the patient's death that there was no cyanosis.

In connexion with the relationship of the auscultatory signs and the post-mortem appearances there are some points which call for comment. The systolic and diastolic bruits were heard loudest at the third left costal cartilage and inner end of the second space and the latter was conducted down the left margin of the sternum. Now, aortic and especially diastolic aortic murmurs are often heard loudest at the left side of the sternum. I am convinced that this is quite common but I shall not enter into its explanation at present. The question of whether the bruits were really aortic or not was discussed. The pulse was against aortic regurgitation; on the other hand, the absence of any marked evidence of right-sided enlargement and the absence of venous engorgement made us pause before coming definitely to the diagnosis of a pulmonary lesion and I think the chief factor which guided us correctly was the great loudness of the systolic part of the bruit in the pulmonary area. A very remarkable feature which I cannot satisfactorily explain was the loud strictly systolic bruit audible in the left scapulo-vertebral interval. This, as was mentioned before, was louder than at the apex but not so loud as in the pulmonary area. During life we regarded this as a point in favour of an aortic as against a pulmonary origin for the bruit, which we conceived might be carried thus far with the blood stream. The indications of a pulmonary origin were, however, so strong that I expressed the opinion that there might be a patent ductus arteriosus with a flow of blood from the pulmonary artery to the aorta which would probably determine the transmission of the bruit in this way to the back. I was bound to point out at the same time that in most cases of patency of the ductus arteriosus the flow of blood was in the opposite direction—namely, from the aorta to the pulmonary artery—for they were usually associated with pulmonary stenosis, a lesion which determines a low pressure of blood in the pulmonary artery and thus, fortunately for the access of blood to the lungs, there results a flow from the aorta through the ductus which prevents its closing as it normally does. I am still at a loss to explain the loudness of the systolic bruit in the left scapulo vertebral interval. I had never heard it advanced that obstructive pulmonary bruits are heard loud in this position It may be contended that the bruit we heard behind was not the same as that heard in front but was a bruit in connexion with the deficient auricular septum and caused by blood passing from the right auricle into the left, as I have explained it must have done after the supervention of the pulmonary valve lesion. Such a bruit, produced as it would be by a fluid vein in the left auricle, might well be heard behind, for the same reason that the bruit of mitral regurgitation is heard in this situation—namely, because the body of the left auricle is the most posterior part of the heart, being separated from the spinal column only by the œsophagus and aorta. Now the largeness of the aperture is, I think, against the likelihood of its having been a cause of a fluid vein in blood passing through it. We must remember also that the bruit in question was definitely confined in point of time to the ventricular systole, a period during the beginning, at all events, of which the flow of blood through the orifice would be at its minimum. I am therefore constrained to think that the bruit produced in the pulmonary artery by the obstruction caused by the vegetations was really transmitted, and with what to me appears to be a surprising degree of facility, to the back of the chest. In this connexion it must be remembered that infective endocarditis of the pulmonary valve is a comparatively rare affection, that the severity of the symptoms often forbids a detailed physical examination, and that in some cases there are no bruits, so that opportunities of studying the problem of this transmission are limited.

I have pointed out that in this case, with the exception of an insignificant vegetation on the tricuspid valve, the endocarditis was confined to the pulmonary segments. Simple endocarditis, which, as you all know, is much commoner on the left side of the heart than on the right, occurs so rarely on the pulmonary valve as a solitary affection that in 11,000 necropsies it was, according to Dr. G. Newton Pitt,[4] present in only one instance in which the other valves were free from vegetations, and even in that case the mitral and aortic valves were thickened. Malignant endocarditis also is commoner on the left side than on the right, but the difference in incidence is not so striking as in the simple form. When we consider the conditions to which this form of endocarditis is secondary, such as septic phlebitis, osteomyelitis, gonorrhœa, puerperal fever, and septic middle-ear disease, it may occur to you as a probable explanation of this that the causative agent reaches the right side of the heart first and partly neutralises the conditions, whatever they may be, that lead to the left side of the heart being more prone to this affection. If this occurs to you as a reasonable explanation I must point out that you are adopting the view of Virchow, who held that infection reaches the free surface of the valves by the main blood stream and not that it attacks the valves through their special blood-vessels as is, I believe, maintained by Köster. Here I may point out that in the adult with healthy valves blood-vessels are confined to the bases of the auriculo-ventricular valves and are not present at all in the semilunars. This may not be an insuperable objection to the view of Köster, but the familiar appearance of a fringe of vegetations close to the free margin of valves which in other respects appear normal, together with other considerations, have always made me incline to the view of Virchow. Again, I believe it to be the case, though I cannot quote figures in support of my opinion, that when infective endocarditis occurs as a complication of pneumonia the incidence is in a very special degree on the mitral and aortic valves,—those, namely, over which the poison-laden blood must first pass

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This, then, I consider to be the connexion, if indeed there be any, between the deficient auricular septum and the incidence of the endocarditis on the valves of the right side of the heart. It is true that for the reasons already given the deficiency in the septum was associated with the necessity for an increased amount of work on the part of the right side with consequent increased strain on the valves, and that this, in the opinion of some, makes them more liable to endocarditis, nor must we overlook the well-known connexion between endocarditis not only of the simple but of the malignant variety, and certain congenital affections of the heart. On analysing 57 cases of malignant endocarditis of the pulmonary valves Dr. Newton Pitt[5] found that there was patency of the interventricular septum in ten cases, congenital pulmonary stenosis in eight, and patent ductus arteriosus in three, and he says: "The stream regurgitant through an aperture in the ventricular septum or through a patent ductus arteriosus tends to damage the endothelium of the wall on which it impinges and thus gives rise to vegetations" It is very common to find granulations on the margins of abnormal openings and the thickening of the epithelium of the ventricular septum or anterior aspect of the great mitral segment with or without vegetations which I have pointed out to you in many cases of aortic regurgitation is a further illustration of the influence of abnormal currents of blood. In the case we are discussing, however, the association was not of this kind, for the pulmonary valve was not subjected to the mechanical impact of any special current of blood.

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ON

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Delivered at the Opening of the Medical Session, Oct. 2nd, 1906,

BY T. PRIDGIN TEALE, M.A., M.B. OXON., F.R.C.S. ENG., F.R.S.,

CONSULTING SURGEON TO THE GENERAL INFIRMARY AT LEEDS.

GENTLEMEN,—Fifty-four years ago I sat in the hall of King's College listening to the opening address of my first medical session—a time preceding the Crimean war and the Indian Mutiny, when ideas as to the improvement of hospital construction and sanitation, if they existed at all, were in their infancy. It is just over 22 years since I became, along with my friend and colleague Mr. Wheelhouse, consulting surgeon to the Leeds General Infirmary and had the privilege, whilst ceasing to be full surgeon or to take any serious responsibility in clinical teaching, of being able to use six beds for patients ordered in by myself. I need hardly say that this right I used fully, with advantage to myself in keeping in touch with advancing surgery, and I venture to hope with no countervailing detriment to the work of the hospital or medical school. Now, however, I have gradually withdrawn from the active practice of my profession and have become a looker-on. As such may I not claim the privilege of making the subject of this address a looking backwards, rather than a critical review of the present, or a forecast of the future? Indeed, I feel justified in so doing inasmuch as I am one of a very small number now living who have seen through and taken part in the greatest revolution in surgical and medical practice and in medical education that probably the world has ever known, and one of a still smaller band of men whose student life began in the original King's College Hospital, who, having witnessed the replacement of the old by a new one, your present hospital, are still living to wish God-speed to the magnificent new building of which the plans have been worked out by your architect, Mr. Pite.

The very name, King's College Hospital, is an epitome of its history. When the medical school of King's College was first established it had no hospital of its own, its students being dependent upon the hospitality of an alien hospital, not conveniently situated for students working at the college in the Strand. Feeling the need of a hospital of their own at a more convenient distance from the school and under the control of the staff the authorities purchased the old Clement Danes workhouse, flanked by a disused burial ground as an "open space." Such was the hospital to which I came as a student in 1852, graced by the perfect surgical manipulation of Fergusson, by the consummate clinical teaching of Todd, and the exquisite and delicate surgery and fine diagnostic instinct of Bowman. As my contemporaries, most of them my seniors, I recall Hulke, George Lawson, Christopher Heath, Samuel Dougan Bird, Conway Evans, William Preston Goodall, now passed away, and Buzzard, Edward Liveing, and Duffin still amongst us. Partridge, anatomist and artist, was Fergusson's colleague as a surgeon; Budd was Todd's colleague as physician; Henry Lee was assistant surgeon along with Bowman; George Johnson and Guy were assistant physicians; and John Wood in the dissecting room at the College was the prince of anatomical demonstrators. As a transition I doubt not the makeshift hospital worked well. Certainly there was great clinical enthusiasm amongst us and the most was made of opportunities by the students of that day. Yet this did not blind the authorities to the inadequacy of the building and of the accommodation for patients—an inadequacy which you will appreciate with a sort of horror when I tell you that the theatre served the double purpose of providing for operations and for post-mortem examinations, the dead-house being placed beneath a trap-door in the floor of the operating theatre. It was during my studentship that your present hospital was commenced and the first portion was completed and brought into use in my final year, the initial year of the Crimean war.

Fine as your building is, and planned as it was in accordance with the views of hospital construction then prevalent, it had the disadvantage of being designed on the plans of the block buildings when economy of space was deemed imperative and when windows on one side of a ward were all that were called for. It was just a few years too early. Nursing as a calling which needed careful training was just coming into being, and I remember that in the new wards recently opened ladies came for a short training in nursing before going out to join Miss Nightingale in the hospitals of the Crimean war.

I have just had the privilege of looking over the hospital, guided by Mr. T. B. Peyton Beale, whose father, the last survivor of my teachers at King's, has but recently passed away. I was struck with the very great difficulties with which the committee has had to contend in order to meet even approximately the increasing and exacting demands of modern practice, teaching, and nursing, and the remarkable way in which in such a contracted area these demands have been met. If your present hospital has lost, by having to be built too soon to benefit by modern ideas of construction, the new one will now benefit by the experience gained during the active period of hospital construction of recent years, and so may become the most perfect building of the kind in the kingdom. The motive—that is, the moving force—which has brought about the decision of your council to take the bold step and to face the pecuniary responsibility and effort of building an entirely new hospital on a distant site south of the Thames was the change that has come over this neighbourhood and the shifting of population so that the present building had become, so to speak, stranded and out of the way of the poor who need such an institution in their midst. But it seems to me that, had this not been the case and had the demands of the neighbourhood continued at the high level of former days, the question of a new hospital on a larger site must have become still more urgent, so great are the demands of the modern developments of medicine and surgery and the requirements of teaching in the prolonged medical course.

By the courtesy of Mr. Pite I have looked over the plans for your new building and I cannot but admire the courage of your committee in aiming at an equipment so complete, and the skill with which, provisionally at any rate, the varying and exacting demands of every department have been met. Your old workhouse hospital served its purpose in its day, was the scene of the advanced surgery of its time, and was the sphere of work of one of England's greatest clinical teachers, Todd, and of one of our greatest surgeons, Fergusson. Its cost was probably under £100,000 and it had probably 100 beds. Your new hospital will be planned in the first instance for 408 beds with a possible increase to 600 and the preliminary estimate of cost is £366,712. What a contrast! And what a lesson can be learned from its consideration. Let me endeavour to read the lesson by the light of the hospital I am myself familiar with and of which I possess the annual reports of the last 45 years. I select the Leeds Infirmary because I can speak of what I know, and I take it to be a type illustrating changes and advances which are common, more or less, to hospitals not only in England but all over the world, so free is the inter-communication between nations and so cordial the intercourse between medical men who are using their best faculties for furthering the science of their profession. There are three aspects under which this lesson can be studied: (1) the history of the Leeds Infirmary during the last 45 years; (2) a comparison of the operations recorded in the annual reports of the infirmary, taking for this purpose five periods of five years each; and (3) a consideration of the factors which have contributed to this development and these results.

I. THE EVOLUTION OF THE LEEDS INFIRMARY.

In March, 1864, I was elected surgeon in succession to my father and within a few days the foundation stone of the new infirmary was laid by Mr. Kitson, Mayor of Leeds. Five years later we commenced work in the new building. After much discussion, some of it animated and heated, the decision had been made not to patch up and enlarge the old building on an inadequate site of three acres of inconvenient shape but to build a new hospital on a fresh site of five acres and planned on the best known principles of the day. The leading principle which was then coming to the front was the pavilion system, which secured light and air on each side and at the end of every ward. The first hospital built on this plan, I believe, was the Lariboisière Hospital in Paris. The next, I believe, and certainly the first in England, was in course of construction from the designs stenosis, a lesion which determines a low pressure of blood in the pulmonary artery and thus, fortunately for the access of blood to the lungs, there results a flow from the aorta through the ductus which prevents its closing as it normally does. I am still at a loss to explain the loudness of the systolic bruit in the left scapulo vertebral interval. I had never heard it advanced that obstructive pulmonary bruits are heard loud in this position. It may be contended that the bruit we heard behind was not the same as that heard in front but was a bruit in connexion with the deficient auricular septum and caused by blood passing from the right auricle into the left, as I have explained it must have done after the supervention of the pulmonary valve lesion. Such a bruit, produced as it would be by a fluid vein in the left auricle, might well be heard behind, for the same reason that the bruit of mitral regurgitation is heard in this situation—namely, because the body of the left auricle is the most posterior part of the heart, being separated from the spinal column only by the œsophagus and aorta. Now the largeness of the aperture is, I think, against the likelihood of its having been a cause of a fluid vein in blood passing through it. We must remember also that the bruit in question was definitely confined in point of time to the ventricular systole, a period during the beginning, *at all events, of which the flow of blood through the* orifice would be at its minimum. I am therefore constrained to think that the bruit produced in the pulmonary artery by the obstruction caused by the vegetations was really transmitted, and with what to me appears to be a surprising degree of facility, to the back of the chest. In this connexion it must be remembered that infective endocarditis of the pulmonary valve is a comparatively rare affection, that the severity of the symptoms often forbids a detailed physical examination, and that in some cases there are no bruits, so that opportunities of studying the problem of this transmission are limited.

I have pointed out that in this case, with the exception of an insignificant vegetation on the tricuspid valve, the endocarditis was confined to the pulmonary segments. Simple endocarditis, which, as you all know, is much commoner on the left side of the heart than on the right, occurs so rarely on the pulmonary valve as a solitary affection that in 11,000 necropsies it was, according to Dr. G. Newton Pitt,[4] present in only one instance in which the other valves were free from vegetations, and even in that case the mitral and aortic valves were thickened. Malignant endocarditis also is commoner on the left side than on the right, but the difference in incidence is not so striking as in the simple form. When we consider the conditions to which this form of endocarditis is secondary, such as septic phlebitis, osteomyelitis, gonorrhœa, puerperal fever, and septic middle-ear disease, it may occur to you as a probable explanation of this that the causative agent reaches the right side of the heart first and partly neutralises the conditions, whatever they may be, that lead to the left side of the heart being more prone to this affection. If this occurs to you as a reasonable explanation I must point out that you are adopting the view of Virchow, who held that infection reaches the free surface of the valves by the main blood stream and not that it attacks the valves through their special blood-vessels as is, I believe, maintained by Köster. Here I may point out that in the adult with healthy valves blood-vessels are confined to the bases of the auriculo-ventricular valves and are not present at all in the semilunars. This may not be an insuperable objection to the view of Köster, but the familiar appearance of a fringe of vegetations close to the free margin of valves which in other respects appear normal, together with other considerations, have always made me incline to the view of Virchow. Again, I believe it to be the case, though I cannot quote figures in support of my opinion, that when infective endocarditis occurs as a complication of pneumonia the incidence is in a very special degree on the mitral and aortic valves,—those, namely, over which the poison-laden blood must first pass.

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Fine as your building is, and planned as it was in accordance with the views of hospital construction then prevalent, it had the disadvantage of being designed on the plans of the block buildings when economy of space was deemed imperative and when windows on one side of a ward were all that were called for. It was just a few years too early. Nursing as a calling which needed careful training was just coming into being, and I remember that in the new wards recently opened ladies came for a short training in nursing before going out to join Miss Nightingale in the hospitals of the Crimean war.

I have just had the privilege of looking over the hospital, guided by Mr. T. B. Peyton Beale, whose father, the last survivor of my teachers at King's, has but recently passed away. I was struck with the very great difficulties with which the committee has had to contend in order to meet even approximately the increasing and exacting demands of modern practice, teaching, and nursing, and the remarkable way in which in such a contracted area these demands have been met. If your present hospital has lost, by having to be built too soon to benefit by modern ideas of construction, the new one will now benefit by the experience gained during the active period of hospital construction of recent years, and so may become the most perfect building of the kind in the kingdom. The motive—that is, the moving force—which has brought about the decision of your council to take the bold step and to face the pecuniary responsibility and effort of building an entirely new hospital on a distant site south of the Thames was the change that has come over this neighbourhood and the shifting of population so that the present building had become, so to speak, stranded and out of the way of the poor who need such an institution in their midst. But it seems to me that, had this not been the case and had the demands of the neighbourhood continued at the high level of former days, the question of a new hospital on a larger site must have become still more urgent, so great are the demands of the modern developments of medicine and surgery and the requirements of teaching in the prolonged medical course.

By the courtesy of Mr. Pite I have looked over the plans for your new building and I cannot but admire the courage of your committee in aiming at an equipment so complete, and the skill with which, provisionally at any rate, the varying and exacting demands of every department have been met. Your old workhouse hospital served its purpose in its day, was the scene of the advanced surgery of its time, and was the sphere of work of one of England's greatest clinical teachers, Todd, and of one of our greatest surgeons, *Fergusson*. Its cost was probably under £100,000 and it had probably 100 beds. Your new hospital will be planned in the first instance for 408 beds with a possible increase to 600 and the preliminary estimate of cost is £366,712. What a contrast! And what a lesson can be learned from its consideration. Let me endeavour to read the lesson by the light of the hospital I am myself familiar with and of which I possess the annual reports of the last 45 years. I select the Leeds Infirmary because I can speak of what I know, and I take it to be a type illustrating changes and advances which are common, more or less, to hospitals not only in England but all over the world, so free is the inter-communication between nations and so cordial the intercourse between medical men who are using their best faculties for furthering the science of their profession. There are three aspects under which this lesson can be studied: (1) the history of the Leeds Infirmary during the last 45 years; (2) a comparison of the operations recorded in the annual reports of the infirmary, taking for this purpose five periods of five years each; and (3) a consideration of the factors which have contributed to this development and these results.

I. THE EVOLUTION OF THE LEEDS INFIRMARY.

In March, 1864, I was elected surgeon in succession to my father and within a few days the foundation stone of the new infirmary was laid by Mr. Kitson, Mayor of Leeds. Five years later we commenced work in the new building. After much discussion, some of it animated and heated, the decision had been made not to patch up and enlarge the old building on an inadequate site of three acres of inconvenient shape but to build a new hospital on a fresh site of five acres and planned on the best known principles of the day. The leading principle which was then coming to the front was the pavilion system, which secured *light and air* on each side and at the end of every ward. The first hospital built on this plan, I believe, was the Lariboisière Hospital in Paris. The next, I believe, and certainly the first in England, was in course of construction from the designs of Sir Douglas Galton, one of the pioneers of sanitary science in this country. The committee selected Gilbert Scott as architect and he, with the late Dr. Chadwick, senior physician to the infirmary, visited hospitals in England and on the continent in order to collect data on which our new building should be planned. Sir Douglas Galton placed his plans of the Herbert Hospital at Woolwich and his trained knowledge most generously at the service of the architect and committee. The result was a building which in general arrangement of parts, had it to be planned anew on the present site, could hardly be surpassed now. Faults there were in detail and as new needs arose these have been corrected. Drains were laid in all directions under buildings, and sanitary conveniences, except as regards the wards, were placed where they ought not to be. Indeed, sanitary science of house drains was not violated—it was simply non-existent. Eight years after the opening of the new building I read in the report of the infirmary for 1877 the following sentence: "During the year the board have given great attention to the sanitary arrangements of the hospital. The system of drainage has been altered so that the waste pipes from the lavatories, sinks, and baths have been disconnected from the soil drains and carried outside the building. The soil pipes have been ventilated and a great number of other alterations have been made, all contributing to better light and ventilation and to the prevention of the possibility of any escape of sewer gas into the wards." This period of the late "seventies" was the time when the medical profession was waking up to the fact that a great proportion of the illness with which it had to deal was the direct result of faulty sanitary arrangements in the dwellings of their patients. Further reconstructions of drainage have taken place from time to time and now I feel sure that the sanitary condition of the hospital is not far short of, even if it does not reach, the best standard of the present time. Let me illustrate the evolution of the Leeds Infirmary by the consideration of three departments: (1) out-patients, (2) nursing, and (3) operation theatre.

1. *The out-patient department*—In the old infirmary out-patients had to wait in the entrance hall at the bottom of the main staircase leading up to the wards. Cold and comfortless for those waiting, such an arrangement could not but impair the air of staircases, corridors, and wards. The patients were "seen" in a room of moderate size, the three physicians on one day and the three surgeons on another day sitting together in a crowded room, with one very small retiring room. In the new hospital this imperfect arrangement was replaced by a large well-lighted waiting room, with three rooms for the surgeon and three rooms for the physician, and a separate entrance and exit for the out-patients, who were thus cut off from the hospital proper. For many years this served its purpose admirably. But in medicine and surgery science and the requirements of practice advance, staff and patients increase in number, and these provisions of 1869 became inadequate. In 1892 an extension of the infirmary was made at a cost of £48,000. This included as a main feature one of the most complete out-patient departments then in existence. This department consists of a large central hall surrounded by separate suites of rooms for medical, surgical, gynæcological, and ophthalmic patients. Each compartment as well as the dispensary open directly into this hall, and an out-patient operating theatre is provided for the surgeons, and a second for the ophthalmic surgeons with rooms for the recovery of patients after anæsthetics. Thus the arrangements for the treatment of out-patients were raised in the course of less than 25 years from being amongst the worst in the kingdom to a position second to none

2 *Nursing.*—The old system of nursing was in full play during the early years of my surgeoncy and came to an end with the removal to the new building in 1869. It is appalling to look back on the night nursing. Two elderly women had charge, one of each floor, with its six wards large and small, and their chief function probably was to summon the resident medical officer in case of a death—not to keep alive a poor creature hovering between life and death. One of the day nurses coming on duty at 4 or 5 o'clock in the morning would rouse the male patients by "Now, my lads, arise and shine." Training, of course, was unheard of, and the nurses were under the charge of, and were engaged by, the resident medical officer, a young recently qualified man, and the housekeeper-matron. In 1869 came the "superintendent of nurses" The board would not have a "lady superintendent" or a "sister" at any price, and the domestic arrangements were placed in charge of a housekeeper. Thi was the beginning of better things, but it was three year before we had a "lady superintendent" thoroughly traine and experienced in nursing.

3. *The operating theatre.*—Need I say much as to th "operating theatre," the development of which, as elsewhere was gradual? In the old infirmary, one theatre, and n room annexed for any purpose. In the new building o 1869 only one theatre with a small lobby for the staff wa provided. There was no anæsthetic room. Anæsthetic were administered in the theatre itself, not only entailing loss of time but exposing the patient to the pain of facing an audience gathered to witness the operation he was abou to undergo. There was no recovery-room nor room for the staff. For illumination at night ordinary gas burners were used; there was no electric current either for illumination or other purposes. Cases occurring at night—smashes of limbs, strangulated hernia, and such like—were operated on in the wards by the aid of large tallow candles From this initial stage improvements and additions went on until in 1897 the old theatres were replaced by our new ones embodying all the best known arrangements and appliances and built at a cost of over £6000.

II.—WORK DONE AND RESULTS.

So far I have spoken of structure and management Let me now deal with the second aspect under which our lesson can be viewed, the "work done and results," taking the facts from the annual record of the operations by the surgeons, and excluding for the sake of simplicity those done in the gynæcological and ophthalmic departments. For this purpose I have taken five periods of five years each—five half decades—commencing with 1861 and ending with last year. Nothing, I think, could afford a more perfect picture of the progress of surgery or justify more completely the outlay on the improvements of hospital structure and management than these remarkable records from which, at the risk of being tedious and of departing from the custom of introductory addresses, I will venture to bring before you certain telling facts. And here I must apologise to an audience largely composed of lay persons interested in the welfare of the King's College Medical School for dealing for a time with matters essentially professional. As I stated before, I have taken and compared five half decades, 1861-65, 1871–75, 1881–85, 1891–95, and 1901–05. These statistics I propose to deal with from four points of view (1) the increase in the actual number of operations recorded; (2) the increase in the nomenclature of operations—i e, the introduction of operations new to surgery; (3) the gradual oncoming and progressive increase in the number of cases operated upon under certain selected headings, and (4) the progressive diminution of death-rate in nearly all the great classes of operation.

1. *Increase in number of operations.*—I will in the first instance compare the first year and the last year of the series, not the half decades In 1861, 211 operations are recorded with 16 deaths (1 in 13). In 1905, 2544 operations with 142 deaths (1 in 18). And this number does not include the operations in the gynæcological or ophthalmic or casualty departments; the deaths of 1905 include 83 deaths out of 829 cases of accidents (1 in 10) and 57 deaths out of 1715 (1 in 30).

2 *Increase in nomenclature of operations.*—In 1905 there are 90 names of operations which do not appear in 1861, and 1158 operations, nearly half, were performed which were not thought of, many of which could not have been undertaken, at that earlier period.

3. *The introduction and gradual increase of certain classes of operation.*—The term "abdominal section" appears for the first time in the second half decade—1871–75. Under this heading neither rupture, nor hysterectomy, nor operations on the kidney or appendix are included The numbers are: none in the first period, two in the second, 67 in the third, 279 in the fourth, and 1258 in the last. Let us take another class, "operations on lymphatic glands." These appear first in the third period, 1881–85, as 28; in the fourth period as 462; in the fifth as 429. "Operations for appendicitis" appear first in the fourth period, 1891–98, as 25 in number; in the fifth period as 540 "Operations for the radical cure of rupture," when not strangulated and therefore not in an acute condition These first appear in the second period, 1871–75, as three in number; in the third period they are 13, in the fourth 225, and in the fifth 790. So much for the increase in numbers.

4. *The progressive diminution of fatality.*—The fourth int which I bring before you and the most telling is the progressive diminution of fatality." Let us take first ovariotomy" and its kindred operations. In the first two riods out of 86 cases 1 in 3 proved fatal; in the last riod out of 195 cases 1 in 21 proved fatal. To return "abdominal section," which includes operations in ngerous conditions, such as obstructed bowel and perrations of the stomach and intestine, we find that in the ird period 1881–85 out of 67 cases more than half were tal, in the fourth period out of 267 cases 1 in 3½ was fatal, nd in the fifth period out of 1258 cases 1 in 4 was fatal. Operations on the kidney."—Of 38 in the fourth period 1 in 4 was fatal; of 132 in the last period 1 in 12 was fatal. 'Radical cure of hernia."—Of 225 cases in the fourth period he fatality was 1 in 11. In the fifth period out of 790 cases he fatality was 1 in 197. "Strangulated hernia."—In the irst two periods the fatality was nearly 1 in 2, in the third 1 in 3, and in the last two 1 in 5.

The last illustration shall be taken from "amputations." If amputations for accidents and for disease are grouped together the results work out as 1 death in 3½ in the "sixties," 1 in 5¾ in the "seventies," 1 in 6½ in the 'eighties" and "nineties," and 1 in 10 in 1900. If amputaion for disease alone is taken a somewhat similar progressive diminution occurs. There is one remarkable fact in reference to amputations which demands notice. Whereas in every other instance of operations of which for the purpose of this address I have taken out the figures there is a progressive and often very remarkable increase in the number performed, there is in the number of amputations a progressive and very marked diminution. The figures for the last four half-decades are: in the case of accidents, 166, 113, 91, and 84; in the case of accident and disease combined the numbers are 316, 219, 261, and 208. What can be the explanation? Two things probably concur in producing this result. One is that severe accidents calling for amputation are probably more rare owing to the falling off in new railway construction in the neighbourhood and also to the more stringent laws in reference to protection of machinery and the Employers' Liability Acts. The second, and probably the leading, factor may be that, by the aid of improved conditions pervading hospitals and improved methods, many limbs can now be preserved which in former days would have been condemned to amputation as the only safe course. Have we not here a striking picture of the progress of surgery and of its results? It now remains to complete the lesson by a consideration of—

III. The Factors which have Rendered Possible such Results and this Enormous Increase in the Number of Operations Justifiable.

First of all came the recognition that the source of nearly every blood-poisoning disease, such as erysipelas, pyæmia, and the like, the curses of surgery, was something introduced from outside, a germ which could be introduced into the body and multiply and produce destructive changes tending to impede repair or to destroy life. The new doctrine, thanks to the labours of Pasteur and Lister, rapidly spread, in spite of non-acceptance and even opposition on the part of some surgeons. The word went forth to fight the germs, which were assumed to be all-pervading—in the atmosphere as well as in wounds. Hence followed—and a valuable step in progress it proved—the "antiseptic" period, when the carbolic spray was used to form a protective atmosphere about the patient and chemicals were used to preserve the dressings and wounds from septic influence. Then came the science of bacteriology which has unmasked for us the natural history and source of the baneful germs and in the case of many of them has taught us where they are to be found and how they are to be excluded; in fact, it has laid the foundation of "aseptic" surgery, which aims at the exclusion of germs rather than at their destruction after they may have gained a foothold.

This, then, is the meaning of the elaboration of design in a modern hospital. Sanitary science has taught us how to keep the air of our wards pure and to secure the most perfect cleanliness. Hence, the polished floors and walls, the corners rounded, the abolition of cornice ledges and of every place where dust, possibly germ-laden, may lodge. This is the meaning of the careful arrangements of the operating theatre; clean washing coats for surgeons and staff; cleanliness of person, of patients, and attendants; sterilisation of water, dressings, swabs, and instruments. These are the means which, aided by the accumulating knowledge and skill of surgery, have led to the astonishing results I have already laid before you.

May we not now take stock of our position. Let us consider where we as medical men stand compared with those early days I have spoken of. In 1852, 54 years ago, sanitary science was a sealed book to nearly every medical man in the kingdom and to nearly every architect and builder, and the sanitary engineer had not arrived. At that time chloroform was the only anæsthetic and was used sparingly and timidly and, under the influence of Dr. Snow, anæsthetist to King's College Hospital, was winning its way into favour. Now anæsthetics are used freely and, thanks to the introduction of ether, can be used for examinations and operations which without anæsthetics would have been out of the question or hardly justifiable. In 1854 came the ophthalmoscope, introduced into the Royal Ophthalmic Hospital, Moorfields, from Germany by the late Dr. Bader. This opened out a world of discovery in ophthalmic science and, thanks to the work of Professor Clifford Allbutt, it has proved a valuable addition to the clinical resources of the physician. As surgery gave the ophthalmoscope to the physician, so in turn the physician gave the clinical thermometer to the surgeon. And here the profession is again under obligation to Clifford Allbutt, who, perceiving the possibilities of clinical thermometry, saw at the same time that the long thermometers in a wooden case carried under the arm would never come into general use and at one stroke rendered every-day use of it practicable by reducing the size to a "pocket edition" and inventing, or procuring the invention of, the recording index. Next came the laryngoscope, at first a sort of toy and looked upon as a fad, but now claiming a special physician, and a full share in the suite of six rooms assigned to the "ear and throat section."

And what shall we say about electricity in all its bearings? At one time the profession looked askance at its votaries, with suspicion as to their scientific aims, and with some doubts as to their perfect honesty. The truth that underlay the imperfect early attempts to utilise its power has gradually commanded the attention of the profession and enlisted earnest scientific workers in its service. And now we find in the instructions to the designer of your new hospital a requirement for a suite of not less than nine rooms to be devoted to radiography, treatment by the x rays and Finsen light, electrical treatment, massage, and gymnastic treatment. Truly these are powers but recently incorporated in the resources of the profession, and new means by which, if used well, wisely, and intelligently, mitigation can be won for the ills of suffering humanity.

My theme has held me so long that time is not left for the consideration of the bearing of all these changes and expansions on medical education. I might have pointed out how much has been done to mitigate the increased demands of expanding knowledge by improved methods of teaching, and by the development of opportunities of practical work, entailing increased cost in time and money on the part of medical schools and students. I might have deplored the increased number and increased stringency of examinations so crippling to the best kind of study and the helplessness hitherto of the authorities in facing and rectifying an excess which is an almost universally acknowledged evil. May I be permitted to conclude this retrospect with the words of one of our greatest men, Sir James Paget, who, in his address to the International Medical Congress in London in 1881, said: "We that can read in memory the history of half a century might look back with shame and deep regret at the imperfections of our early knowledge, if we might not be sure that we held, and sometimes helped onward, the best things that were in their time possible, and that they were necessary steps to the better present, even as the present is to a still better future. Yes—to a far better future; for there is no course of nature more certain than is the upward progress of science. We may seem to move in circles, but they are the circles of a constantly ascending spiral; we may seem to sway from side to side, but it is only as on a steep ascent, which must be climbed by zigzag."

Medical Society, University College, London.—The first meeting of the current session will be held in the Medical Library, University College, on Wednesday, Oct. 17th, at 8.30 P.M., when a paper will be read by Sir William Gowers, F.R.S., entitled "Immateria Medica." Visitors are cordially invited.

Abstracts
OF
INTRODUCTORY ADDRESSES, ETC.
DELIVERED AT THE
MEDICAL SCHOOLS
AT THE
Opening of the Session 1906-07.

LONDON SCHOOL OF TROPICAL MEDICINE.

INTRODUCTORY ADDRESS BY KENNETH MACLEOD, COLONEL I.M.S., M.D. EDIN., LL.D., HONORARY PHYSICIAN TO H.M. THE KING.

Colonel Macleod said: Nearly three years ago, on Dec. 7th, 1903, an address was delivered in this place by Sir Patrick Manson whom I may without impropriety designate as the Brahma and Vishnu—the creator and sustainer—of the London School of Tropical Medicine. In that address Sir Patrick Manson described the origin, progress, and prospects of the institution and indicated its objects, achievements, and requirements. The school, which was opened on Oct. 3rd, 1899, had then completed the fourth year of its existence. During the three years which have elapsed since that address was delivered the school has continued to prosper. The aggregate of students who have attended during 21 sessions has increased to 617. Of this number 235 belonged to the colonial medical service, for the benefit of which and for the benefit of the colonies in which its members were destined to serve the school was originally designed and organised, under the administration and personal initiative of that great Colonial Minister, the Right Honourable Joseph Chamberlain; 18 medical men employed by the Foreign Office, 29 officers of the Indian Medical Service, 7 of the Royal Army Medical Corps, 4 of the Royal Naval Medical Service, 1 of the Indian Civil Veterinary Department, and 33 medical officers serving under other Governments have passed through the school, making a total of 327, or 53 per cent. of the whole; 71 medical missionaries and 219 private students, or 290 non officials (47 per cent.) have availed themselves of the opportunities of studying tropical diseases afforded by the school. The large proportion of non-official students fully confirms the wisdom of the founders of the school in extending its benefits to all medical men, and I may add women (for the aggregate includes 40 ladies), interested in tropical diseases and mostly intending to practise in the tropics. The demand for admission into the school has been well maintained, and a specially satisfactory feature in the statistics of attendance is that the number of students taking the full course of three months is on the increase. The status of the school has been strengthened by its affiliation with the University of London and the admission of tropical medicine as a sixth alternative subject for the M.D. of that University. The school course has also been recognised as entitling students to undergo examination for the Cambridge Diploma of Tropical Medicine and Hygiene. Special arrangements have been made for instruction with reference to the examination for the London degree and Cambridge diploma. 32 students of the school have succeeded in obtaining this diploma and one student has gained the London M.D.

Recently, under the guidance of Sir Patrick Manson, I visited this institution—hospital and school—as it now exists. The hospital has been enlarged and can accommodate 50 patients. The new wards are spacious, clean, and well ventilated, fitted with every appliance and supplied with every requisite for the treatment of the sick. The school building adjoining the hospital, with its large and well-stocked laboratory, lecture room, museum, and library, is well adapted and provided for the instruction of 40 students; and, in addition to accommodation for the staff provides quarters for 12 students who are thus enabled to devote the whole of their time to the studies and practical work. The arrangements are well suited to their purpose and reflect credit on all concerned; but they are by no means complete, and the school must be looked upon as in a state of adolescence and immaturity. Effort and money are still necessary to enable it to accomplish all the good which its promoters and well-wishers desire.

It is gratifying to learn that the London School of Tropical Medicine is free of debt and able to pay its way; but in order thoroughly to fulfil its twofold object of education and research the school needs further extension and development. The laboratory is not large enough for present requirements; additions are necessary for special purposes; with the exception of the Craggs scholarship no provision has been made for promoting and supporting research where it can most profitably be carried out—namely, in the tropics; adequate remuneration is not given to lecturers and instructors; and the fees payable by students are high and capable of considerable reduction. For these and other purposes more money is wanted. Sir Patrick Manson, in the address to which I have referred, estimated that £100,000 were required to place the school on a satisfactory and permanent basis. I understand that of this sum about £40,000 have been received. The remaining £60,000 would form an endowment which would expand the operations and enhance the usefulness of the school. Surely the wealthiest city and busiest port in the world may reasonably be expected, when the want is known, to contribute handsomely to the support of an institution the work of which is designed to mitigate the loss of health and life, which interferes so greatly with the industry and commerce of our tropical colonies and dependencies and causes such a waste of time, labour, and money. The wealth of London and of England is largely drawn from the colonies and from the carrying trade connected with them, and any agency or institution which ministers to the promotion of health and prolongation of life and thereby cheapens production, barter, and transport is deserving of encouragement and support. So that motives of benevolence and self-interest combine to advocate the claims of the school to such liberal endowment as to make it worthy of the city and country and thoroughly competent to carry out those objects and operations the aim of which is to benefit humanity and to promote civilisation.

The necessity of special instruction in the diseases of tropical countries does not require argument or proof. As these countries have their peculiar flora and fauna of which no general teaching of botany and zoology or special study of the plants and animals of temperate regions cannot supply a knowledge, so there are in the tropics special manifestations and modifications of disease regarding which pathology and nosology, as taught in the medical schools of this country, afford very little information. The analogy is by no means a strained one, for the pathology of the present day is largely concerned with botany and zoology, and includes a study of vegetable and animal life. This fact has been wisely recognised in the scheme of instruction arranged in this school. Through the liberality of the colonies the subjects of protozoology and helminthology have been added to the curriculum of study—a novel and important departure which merits commendation and imitation. The study of vegetable microbes is included in that of the diseases with which they are associated, but to complete the teaching of parasitology there is one subject which ought to be systematically developed—namely, pathological entomology. Insects, more especially blood-sucking insects, the mosquito and tsetse fly, for example, have been found to fulfil an important function in the conveyance of infective disease and the harbouring and transmission of disease germs, and knowledge on this subject imperatively claims to be imparted and extended. Recent observations indicate that leprosy is spread by insect agency, and cholera, enteric fever, and plague are very probably similarly transmitted, but on these and other cognate points additional light is required. I trust therefore that a pathological entomologist will in the early future be added to the staff of the school.

The trend of modern investigation and thought has forced into the forefront the fascinating subject of comparative pathology, which has followed naturally but somewhat tardily on comparative anatomy and physiology. The researches of recent years, conspicuously as regards tropical diseases, have revealed a community of suffering and a reciprocity of infection and protection between man and the lower animal creation which have invested medical science with fresh interest and endowed it with larger power. In this connexion it is pleasing to note that an agreement has been concluded between the London School of Tropical Medicine and the Royal Veterinary College, Camden Town, by which students of either institution may attend the other, and an interchange of demonstrations has been arranged. The inquiries and experiments which have made comparative pathology what it is have been beneficial to both man and beast and are capable of becoming more so. The study of comparative pathology is peculiarly needful in the tropics where, under a different environment, life, and conspicuously parasitic life, is more exuberant than in temperate regions and the struggle between the higher and the lower life, between the things and forces that make for development and construction and those that make for decadence and destruction, is more keen and stringent.

The facts and laws of comparative pathology lead up to the higher reaches of transcendental biology and furnish new illustrations of the law of survival of the fittest which the genius of Darwin formularised and his industry so amply exemplified and established. It is important to note, however, that in this struggle the issue depends on circumstances and conditions, and is fortunately subject to the dominance of mind. The survival is not necessarily of the higher organism. In a state of uncontrolled nature the parasite is apt to obtain the mastery, the lower life to flourish at the expense of the higher; and this is specially true of the tropics with their luxuriant vegetation and teeming animal life. There the lower life is rampant and the higher heavily handicapped in the contest. But when the earth is, according to the Divine command, subdued for the use of man, when the primeval forest is cleared, the swamp drained, the desert irrigated, when crops serviceable to man are cultivated, and native races trained to agriculture and commerce, educated and civilised, when ignorance, poverty, and filth are diminished or abolished, the parasite is at a disadvantage, physique and health are improved, and life is prolonged. I see no reason why health should be worse and life shorter in tropical than in temperate latitudes, when the conditions which affect vitality and longevity are properly understood and made the subject of proper control. In a word, what is required in the tropics for healthy existence is reclamation—economic and sanitary—and these should go hand in hand To this end the efforts of the whole community, not of medical men and sanitarians only, but of every member of the population, are required and sanitary education should be made universal and compulsory. As a step in this direction I am glad to learn that Sir Patrick Manson is preparing a catechism of tropical hygiene which he proposes to place in the hands of persons proceeding to the tropics and make the subject of examination as a condition of service.

The marvellous progress which has taken place during the last quarter of a century in our knowledge of the nature and causation of disease, to which the study of tropical diseases has so materially contributed, has radically revolutionised our notions regarding pathological processes. We have been compelled to widen our view and to devote more attention to the environment. Important as is the study of the host and his environment, hardly less important is that of the parasite and its environment. It is essential now that the life-history of both should be worked out and the conditions affecting both beneficially or prejudicially. Disease is no longer looked upon as a malignant entity but as a mode of salutary resistance to noxæ; and such processes as fever and inflammation are found to be protective and curative in their purpose and effects rather than of themselves deleterious. This view proclaims the supreme importance of a study of the noxæ, as well as of the disturbances of health and function to which they give rise. The matter assumes an intenser interest when we consider that there exist in the animal body materials whose office is to destroy the noxæ—to kill the microbe and to antagonise the poison elaborated by it. The existence of these materials and of their power constitutes a startling instance of that adapted prevision commonly called design which pervades nature, and whose most subtle and conspicuous manifestation is in the working of the human brain. To develop and to strengthen these resistive and curative elements in the animal organisation is one of the chief objects of medical science, if not the chief; and, greatest marvel of all, we are learning to use pathogenic micro-organisms for this purpose, just as in the septic tank system we are employing saprophytic microbes to hasten the return of matter which has ministered to organic life, to inorganic forms, and thus to accelerate the process of decomposition, the intermediate products of which are so liable to be dangerous to health The preparation of protective and curative vaccines and sera is engaging the attention of our most able and advanced pathologists. Even cancer, which seems to belong to the category of the infective granulomata, is being diligently experimented on from this point of view with results which offer some promise of eventual success. The principle which underlies the great discovery of Jenner is after the lapse of over a century obtaining new and remarkable applications; the familiar formulæ, vis conservatrix naturæ and vis medicatrix naturæ, are undergoing incarnation, and the intuitions of our forefathers are being converted into material facts.

In offering these observations I have, I fear, been wandering among the hazy heights of generalities; but on an occasion such as the present it seems fitting to survey the field of work as a whole—its extent, condition, and capabilities—rather than examine minutely the tilth of some particular portion of it. But the process of generalisation is prone to become, when misused, both misleading and unproductive and is apt to be beguiling. It is so much easier to think out than to work out a problem. No better illustration of this has ever been furnished than in that land of ideals and shams, India, where at one time strange doctrines concerning pandemic waves, aerial conduction and convection and forces cosmic, telluric and climatic, became rampant. But ever since the arrival of the English in India there have been men who investigated the diseases of the country by clinical methods. The names of Johnson, Twining, Annesley, Webb, Martin, Goodeve, Morehead, Carter, and Chevers merit prominent remembrance in this regard. A new era of systematic practical observation was opened by the deputation of Timothy Lewis and David Douglas Cunningham in the year 1870 to investigate cholera by the methods which they had learned in the Army Medical School, Netley, which was an early pioneer in the special study of tropical diseases, and in which, from first to last, clinical and practical systems of study were followed. It is education of this sort that has fitted men like Bruce, Ronald Ross, Leslie, Roberts, Leishman, and Donovan to accomplish work which has revolutionised tropical medicine, and under the stimulating influence of Professor (now Sir) Almroth Wright's instruction, numerous observers, among whom I may specify the names of Lamb, Rogers, Liston, Douglas, Bannerman, Buchanan, Christophers, James, and Greig, are now engaged in fruitful researches in India. Lewis and Cunningham did excellent work in many directions; but the methods which have been instrumental in adding so materially to our knowledge, particularly staining, pure cultivation and animal experimentation, did not come into full use in their time. The Government of India has now responded to the demands of modern medical science and has resolved to establish laboratories for clinical aid and pathological research throughout India. Many of these are already in existence and active operation. The Pasteur Institute at Kasauli has been converted into a central research laboratory under the direction of Lieutenant Colonel Semple, another disciple of Wright; the King Institute at Guindy, in Madras, under Lieutenant Christophers, is fully fitted for vaccine bacteriological and pathological investigations; the plague research laboratory in Bombay, organised by Haffkine, and Hankin's laboratory at Agra, are available for all kinds of inquiries, and Lingard's laboratory at Muktesar is devoted to similar studies in veterinary pathology. Other institutions of the same kind are being established and in time every large hospital in India will no doubt have its laboratory. Laboratory work has, in short, become absolutely indispensable not only for researches but for routine hospital use.

To those who are about to commence their studies in this school I offer hearty congratulations on the excellent opportunities they possess for fitting themselves for the responsible duties of their future career. You are fortunate in being inheritors of the great accession to our knowledge of tropical pathology and hygiene which recent years have brought. There is hardly a subject which has not undergone illumination. Malaria, cholera, plague, leprosy, yellow fever, Malta fever, filariasis, ankylostomiasis, trypanosomiasis, kala-azar—to catalogue some brilliant examples—have been investigated with diligence and success. Their special causes have been demonstrated and important indications for their prevention and treatment supplied. But, great as have been the triumphs, much work still remains to be done on these and other subjects. The more we know the more we want to know. As the circle of knowledge widens the horizon of ignorance also seems to extend. The etiology of dysentery is still very obscure and the relation of its different forms to hepatic abscess; we are still in ignorance regarding the causation of beri-beri, sprue, dengue, epidemic dropsy, infantile biliary cirrhosis, and many of the infective granulomata; and the strange terms ponos, goundou, and ainhum require pathogenetic explanation. Why is the native of India relatively immune to the infection of enteric fever? Why do dysentery and beri-beri break out in the lunatic asylums of temperate regions, while the general population remains exempt? What is the relation between hill diarrhœa and sprue, the symptoms of which are almost identical, and between kala-azar and Delhi boil which appear to be caused by the same micro-organism? Why is the embryo of filaria nocturna absent from the blood in elephantiasis, which appears in the great majority of cases to be caused by filarial infection? These are a few exceptions of problems which still await solution. This school has already sent forth many earnest and successful workers among whom Low, Daniels, Castellani, Bentley, Wise, Balfour, and Philip Ross deserve special notice; and the inspiration and training which you will imbibe and undergo here will stimulate and qualify you to follow their footsteps. The assimilation of knowledge is very precious but the acquisition of aptitude for increasing knowledge is much more so. But while discovery and invention are objects of high and laudable ambition, few are gifted with the power of productive original research, and it is very remarkable how meagre are the really permanent contributions to science of even the most gifted. Still it is open to everyone to aid in some manner and measure, however humble, in the building of the temple of medicine. Permit me finally to remind you that the main purpose of your lives as practitioners of the art of medicine, as it is the prime motive and glory of your profession, is to promote the welfare of man—to prevent and to cure disease, to relieve suffering and to prolong life In striving to accomplish these ends you will earn gratification and gratitude even if you fail to gain fame or fortune.

ST. GEORGE'S HOSPITAL.

INTRODUCTORY ADDRESS BY THE BISHOP OF BRISTOL.

THE Bishop of Bristol congratulated the students on being now face to face with their professional preparation for a career which each year becomes more scientific and therefore more interesting. Speaking to students of a London school, he was specially glad to see the words "University of London" on their notices, for he had been a member of the Royal Commission on the Teaching University and those members of the Commission who were keen on combination and collaboration had hoped much from the possibility of combination of medical schools with the University. In thus becoming part of the University of London the students were indeed entering upon the citizenship of no mean city and he hoped they would have a clear eye to the duties and the responsibilities which that citizenship imposed. In Cambridge he had on three occasions served the office of proctor for periods of two years, an office that helped to keep a man young by his constant contact with young men. It was an office that revealed some dark things but, on the other hand, it showed the brightest side of young life whose allegiance is paid to the idea of true manliness. In London they would not have the advantage of the watchful eye and the occasional fines of a proctor. They would be their own proctors, thrown on the resources of their own manliness for the preservation of order and propriety in their conduct. He urged them always to listen to the promptings of the better side of their composite nature both for their own sakes and for the reputation of their school. It was a curious sequence of events which placed him in the honourable position of addressing his present audience. His only link with the chairman of council who had invited him was an Alpine Club rope Mr. Dent was president of the Alpine Club for the term 1887–90 and he (the Bishop) was president for the term 1904–07. But the duty thus laid on him entitled him to beg them to take great care of their health, especially by avoiding all extremes. Being himself well over 70 years of age he would beg them to think of the old men they might come to be and how much a life of careful activity would add to the enjoyments of an old man, even at an age when the Psalmist said that all is labour and sorrow. There were two other capacities in which he would say a few words to them. One was that of a patient He could not help feeling that during illness the visit of a man of wide interests and wide knowledge, a man who could speak thoughtfully on many subjects, was worth very much more than the quinine or the nux vomica which might be prescribed, and for full efficacy there must be in reserve a high moral tone. He wished also, speaking in his capacity as a bishop, to say that the medical profession had this indissoluble link with those who were called to exercise spiritual functions, that the greatest physician of the body the world had ever seen was one and the same with the Eternal Physician of the soul. The works of healing wrought by our Lord were, we are told, instantaneous and sure. Medical men in modern days could perform such works but only in considerable periods of time and not with certainty. It added interest to the Gospel record that many of those works were now performed by men, and it added interest to medical and surgical treatment that, consciously or unconsciously, it copied the example set by our Lord. As to the relation between the two branches, the material and the spiritual, they must be regarded as on parallel lines, each illustrating and illumining the other, but neither affording proof with regard to the other. For himself personally, the material admirably illustrated the spiritual, of course, without providing anything of the nature of proof. Similarly the physician and the surgeon might find that spiritual things admirably illustrated material things.

A CONTRIBUTION TO THE PATHOLOGY OF CHOREA.

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PART I.—INTRODUCTORY.

CHOREA major or Sydenham's chorea has always attracted great interest and for this there are good reasons. In the first place it is one of the most frequent of all nervous disorders; then, again, the lesions are so delicate that they have been frequently overlooked, with the result that chorea has long been grouped among the functional affections, indeed, it is only comparatively recent investigations which are proving that it is an organic condition. Lastly, the intimate association of chorea with rheumatic fever has given rise to much speculation and discussion, for at first sight no conditions seem more unlike one another than a swollen joint or damaged cardiac valve and the curious incoördinate movements of chorea, and yet for years many clinicians have been convinced that there must be one common underlying cause for each of them. In this paper it is our intention to continue that line of investigation which has recently promised to elucidate the pathology of chorea and to bring forward some more facts that we have ascertained in our research. We do not, however, intend upon this occasion to discuss the theories and investigations that have been put forward previously, for already in various papers[1] these have been entered upon at some length.

It is nevertheless necessary for us to define our present position We believe that the great majority of cases of chorea are rheumatic in nature and hold that when chorea is rheumatic it is a direct result and not a complication of rheumatism. Lastly, we look upon acute rheumatism as the result of an infection by the "diplococcus rheumaticus." We are led to this belief not only by clinical evidence but from experimental investigation. For there is clear and repeated evidence that this micrococcus can be isolated from the most important rheumatic lesions and can produce similar lesions in animals.

Since Wassermann in 1899[2] produced with constancy a polyarthritis in rabbits by the experimental inoculation of a diplococcus that he had isolated from the cerebro-spinal fluid and inflammatory exudations of a patient dead from acute rheumatism and chorea, that line of investigation upon the pathology of chorea has made considerable progress. Thus, in 1900 Poynton and Paine confirmed the observation of Wassermann and further demonstrated a diplococcus in the pia mater and brain of a fatal case of chorea. In that year they also found that incoördinate movements might result from an intravenous inoculation of the diplococcus into a rabbit. This in turn was confirmed by Meyer[3] and Beattie.[4] In THE LANCET of Dec. 16th, 1905, Poynton and Paine published an investigation illustrated by plates showing the micro-organism in the pia mater of a case of fatal chorea and reported another case in which they had again succeeded in demonstrating its presence. From one of these the diplococcus had been isolated from the cerebro-spinal fluid and had produced arthritis, endocarditis, and pericarditis in rabbits.

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[1] Poynton and Paine: The Etiology of Rheumatic Fever, THE LANCET, Sept. 22nd (p. 861) and 29th (p 932), 1900 Poynton and Paine: Some Further Investigations upon Rheumatic Fever, THE LANCET, May 4th, 1901, p. 1260. Poynton Clinical Lectures on Rheumatic Fever, Lecture No. III, International Clinics, vol. iv, Series 13. Poynton and Paine Some Investigations upon the Nervous Manifestations of Acute Rheumatism, THE LANCET, Dec. 16th, 1904, p. 1760.

[2] Berliner Klinische Wochenschrift, 1899, p 632.

As a result of these various investigations, then, we have at the present time this hypothesis to work upon, that rheumatic chorea is probably the outcome of an infection of the brain and its meninges with the diplococcus rheumaticus: that it is, in the words of Sir Dyce Duckworth, a "cerebral rheumatism." This position once gained we are much aided in further inquiry by a study of other rheumatic lesions and among them especially those that affect the heart. These are so much more frequently fatal than chorea that it is a comparatively easy task to study the rheumatic processes in them and by the experience thus gained to get hints as to the probable nature of the changes to be expected in chorea. Thus it is apparent that the micrococci will be carried in the blood stream to the nervous system and that if they escape from the blood capillaries they will first pass out into the perivascular spaces and connective tissue around the vessels. When they have reached these tissues two series of lesions are to be expected, those produced locally by the diplococci in the connective tissues—with these we must associate the vascular changes—and those produced by the action of the bacterial rheumatic poisons upon the nervous tissue.

In other rheumatic lesions the swollen condition of the affected connective tissues, the great vascular hyperæmia, the capillary hæmorrhages, and the leucocytic infiltrations are all very apparent. In the majority of these lesions also if the investigator is fortunate the bacterial agent will be discovered, although it is rapidly taken up and destroyed by the leucocytes and living cells of the tissues, and on account of its *minute* size requires careful search. The connective tissue changes are hardly likely to be prominent in the brain, for this is essentially composed of nervous elements and a special supporting tissue—the neuroglia. Nevertheless, in other organs where there is a connective tissue basis holding together the functional tissue the evidence of the rheumatic poison can be traced not only in the *former* but also in the functional tissue. In the myocardium, for example, there may be found profound degeneration of the muscle fibres. Thus in these investigations upon chorea we have useful guides provided as to the possible nature and position of the organic lesion if such exist.

PART II.—THE INVESTIGATION.

In the present investigation we are, firstly, adding three more to the recorded observations of the presence of a diplococcus in the pia mater of cases that have proved fatal while suffering from chorea. In addition, this micro-organism has been demonstrated in the brains of these cases lying in the perivascular spaces and connective tissue. Secondly, we have also studied by the most recent methods the two series of changes—viz., those affecting the connective and vascular tissues and those which occur in the nervous tissues in chorea. And, lastly, we have demonstrated that in a case of chorea which occurred in a first pregnancy lesions were present similar to those that were found in the rheumatic cases. Such opportunities could never have offered themselves if it had not been for the kindness of Sir Cooper Perry and Dr. H. S. French, Dr. J. Rose Bradford and Dr. H. Batty Shaw, and we are greatly indebted to them for the pathological material and permission to use the clinical and post-mortem notes of these cases. Deaths from chorea are so rare that the opportunities for testing the results in more than single cases at short intervals are most exceptional, but through their kindness these three cases came to us within a month and gave us an opportunity of repeating and comparing our observations.

The Clinical Cases.

CASE 1.—Our first case, for which we are indebted to Dr. Shaw, was that of a girl, aged seven years, who was admitted to the children's ward at University College Hospital on March 25th, 1906. Her illness had commenced three weeks previously with multiple arthritis, ushered in with acute malaise and vomiting. After a temporary improvement chorea and pericarditis developed, and when admitted her condition was hopeless. Death occurred two days later from heart failure, the chorea having lasted about 17 days. While under observation the temperature ranged between 104° and 99° F., the chorea was very severe, the pericarditis was general, and valvular disease was also present. In her previous history there was a record of an attack of rheumatic fever at five years of age. The post-mortem examination showed general and recent pericarditis, bilateral pleurisy, mitral endocarditis, and myocarditis.

This case was one of extreme severity and illustrates a difficulty that has to be reckoned with in studying chorea. During the last week of life blebs full of serous fluid developed upon the back and elsewhere and the incessant movements rapidly converted them into open sores. An occurrence such as this must, we readily admit, introduce the question of secondary infection and increase the difficulties of an accurate interpretation of any results. For our own part we are sceptical that, under these conditions, a secondary infection will explain the results of post-mortem investigation, because it has been repeatedly demonstrated that in acute rheumatism similar bacteriological results to those we obtained on this occasion can be shown when there is no question at all of open sores.

There is yet another point of interest about this case. Some eminent bacteriologists dispute any direct association between the diplococcus and acute rheumatism and some have failed to find the micrococcus after repeated search in cases of rheumatism. In this case, however, a pure growth of a diplococcus was obtained from the heart's blood by Dr. F. H. Thiele, clinical pathologist to University College Hospital. Its presence was demonstrated in the pericardium by Dr. T. Lewis, the house physician to the case. It was again demonstrated by one of us in the pia mater and by another in the brain, and was cultivated by Dr. Paine, and on experimental injection into animals produced multiple arthritis and pericarditis of the usual type. It will be seen, then, that five different observers independently recognised the occurrence of a diplococcus in this case, which had the features of the diplococcus described in rheumatism.

Pathological investigation.—Only the right half of the brain, brain-stem, and cerebellum and a portion of the diseased heart valve were received for examination. *Macroscopical examination.*—The vessels of the meninges and cortex of the hemisphere, and to a less extent those of the membranes on the base of the brain and brain-stem, were very much engorged. No exudation or signs of inflammation were visible to the naked eye, but several small subpial hæmorrhages could be seen on the convexity of the hemisphere. *Microscopical examination.*—Sections stained with hæmatoxylin revealed great congestion of the blood-vessels of the membranes and of the brain itself, and in many places small hæmorrhages were visible, especially on the under surface of the pia mater. A small proportion of the vessels of the pia-arachnoid, generally the smaller arteries, were thrombosed, especially over the convexity of the hemisphere, and there was in places definite evidence of serous exudation and small round cell infiltration into the membranes in the immediate neighbourhood of the vessels. Thrombosed vessels were still more common in the cortex and subcortical white matter, but in the majority the clots seemed to be quite recent, though some were partially organised. Thrombosed vessels could be occasionally followed into, or found within, small patches of softening, which lay most frequently in the deeper layers of the cortex. The destruction of tissue within them was never complete; there was considerable serous exudation into the recent ones, while the older were marked by proliferation of neuroglial nuclei and sclerosis. There was also small round cell infiltration into the sheaths and perivascular spaces of many of the vessels which were not thrombosed and a polymorphonuclear leucocyte was occasionally seen among them (Fig. 1). These changes were equally marked over the whole hemisphere and within the basal ganglia, but no foci of necrosis were observed in the cerebellum, pons, or medulla, though here, too, there was considerable congestion of the vessels and frequently small round cell infiltration into their sheaths.

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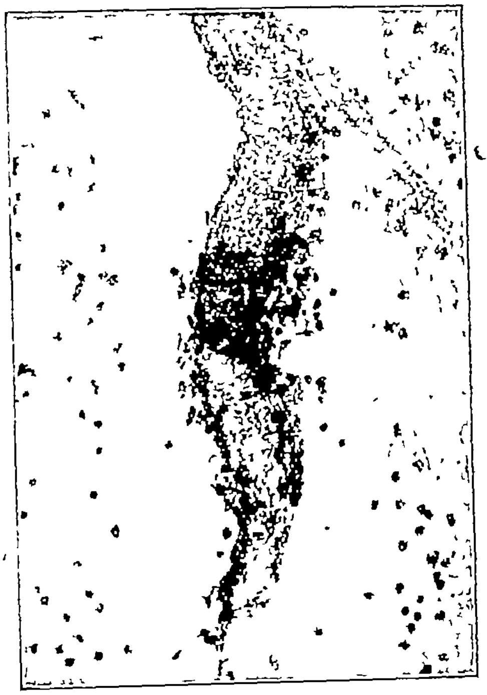
[3] A paper read before the meeting of the Gesellschaft für Innere Medicin, Berlin, 1901.

[4] Beattie: Brit. Med. Jour., December, 1904.

FIG. 1.

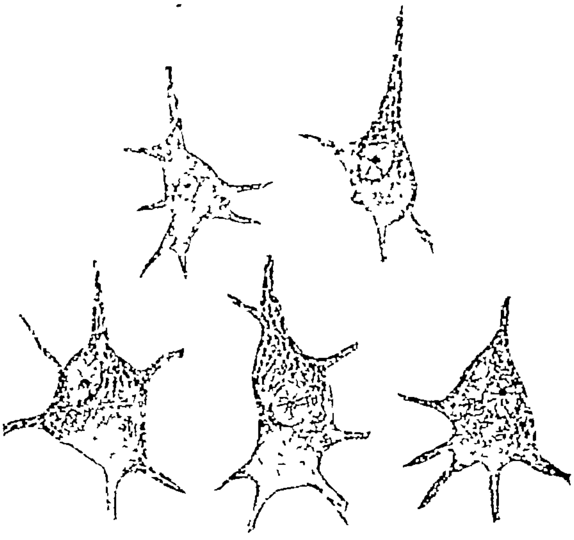


Reproduction of a micro-photograph showing small round cell infiltration into the sheath and perivascular space of a vessel in the subcortical white matter.

When the brain was examined by Nissl's method definite cell changes were found, which were greater in the cerebral cortex than in any other part of the central nervous system. Practically all the cortical cells were affected; as a rule they were swollen and distended, their tigroid had partly disappeared so that they stained diffusely or occasionally almost uniformly, and their nuclei, which were swollen and excentrically situated in a certain number of the cells, stained more deeply than normal. (Fig. 2.) The nucleoli appeared unaltered and the cell processes seemed normal except that they were not easily visible owing to diminution of their chromatophilic substance. The degree of affection of the large Betz cells was very variable. In the majority there was only slight chromatolysis immediately around the nucleus where the Nissl bodies were broken up into a deeply staining granular material, while they remained normal in the periphery of the cell and in the dendrites. In the next stage there was more extensive perinuclear chromatolysis and the nuclei were more generally swollen and more frequently excentric. A small number of cells were still more severely affected; their outlines were scarcely recognisable, their nuclei were shrunken and deformed, and no stainable substance was visible in them. The cells of the basal ganglia were less affected; there was at the most only evidence of commencing chromatolysis and slight swelling of the nuclei. The cells of the different portions of the brain-stem were in much the same state; they stained rather faintly and there was commencing disintegration of their tigroid masses. No definite changes were recognised in the cells of the cerebellum. Various portions of the forebrain and brain-stem were treated by Marchi's method. A few degenerated fibres were found on the borders and neighbourhood of the small patches of softening, but there was otherwise no evidence of disease in the cortex except in the presence of dark granular masses in the perivascular spaces or in the walls of the blood-vessels, which probably represented the process of removal of some degeneration products.

Bacteriological examination.—Thin films of pia mater were stripped off the brain, fixed on slides, and hardened in alcohol. They were then stained by Löffler's methylene blue and examined under an oil immersion lens. In other places the pia mater was cut along with the brain it covered in paraffin and stained by the same method. On careful search bacteria were found in the pia mater; the majority appeared as isolated diplococci of small size, but frequently larger groups of micrococci, many of which lay in pairs, were visible, and occasionally a single micrococcus was also seen. The morphological characters of the micrococci were in every place the same; they were remarkably small on the whole but rather irregular in size. No other bacteria were found in the meninges. Similar diplococci were found in sections of the brain which had been cut in paraffin and stained in the same way. They were seen, however, only in the loose connective tissue surrounding the vessels and in the perivascular spaces; despite careful search none were discovered in the brain tissue. Their presence did not seem to bear any relation to the intensity of the vascular changes or to the presence of thrombosis, but infiltration by small round cells, evidently of vascular origin, was generally visible in their neighbourhood both in the meninges and in the brain. Groups of similar micrococci were found in the ulcerated heart valve. Here they generally lay in groups in which the diplococcus arrangement was easily visible, most frequently at the junction of the necrotic and inflammatory tissue, but in places they extended to the surface of the ulcers or vegetations. Similar diplococci were present in the inflammatory tissue in the pericardium. Morphologically these micrococci seemed identical with those found in the meninges. Dr. Paine kindly investigated for us the cultures obtained by Dr. Thiele from the blood in the left ventricle and found that intravenous injection into the auricular veins of rabbits produced arthritis and pericarditis.

FIG. 2.



Two large pyramidal cells and three Betz cells from the precentral convolution of Case 1, showing various degrees of chromatolysis.

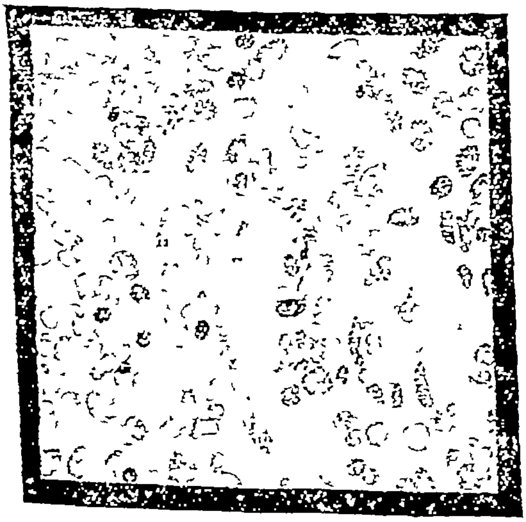
CASE 2.—The second case, a boy, aged 14 years, was admitted to University College Hospital, under the care of Dr. Bradford, on May 8th, 1906. He had been ill for two months and in his past history there was a record of several attacks of subacute rheumatism. The first symptoms of the present illness began with pains all over the body, and for some weeks before admission he had developed præcordial pain, cough, and dyspnœa. His condition was critical. On admission the temperature was 102° F., the pulse-rate was 120, and the respiration was 28 to the minute. The heart was rapid and excited, with a loud apical systolic murmur. There were crepitations at the bases of both lungs and the mental state was dull. After he had been a few days in the hospital the excited action of the heart suggested pericarditis in spite of the fact that there was no pericardial friction. In addition, patches of pneumonia had now developed On e 13th the boy was actively delirious and chorea comenced and rapidly became violent. Death occurred on the neteenth day, the temperature to the end never becoming yperpyrexial. This case is of exceptional value because the horea developed under observation.

The necropsy showed that there was recent pericarditis ver the posterior surface of the heart. The pericardium as adherent over the front and there was recent endoarditis of the mitral and tricuspid valves. The lungs were a condition of acute œdema.

Pathological investigation.—Only the brain and brain-stem ere received. Examination revealed a condition so similar o that of Case 1 that but little additional description is eeded. *Macroscopical examination.*—To the naked eye the tate of the brain was identical with that of Case 1. There ere a similar engorgement of the vessels and subpial hæmorhages. *Microscopical examination.*—As in the previous ase, the engorgement of the vessels was a very prominent eature in sections of the membranes and brain. Very few of the vessels were, however, thrombosed and only two small and incomplete patches of softening were found though a large number of sections were examined. Many of the vessels contained large masses of leucocytes and there was in places considerable œdema in the perivascular spaces and the brain tissue around them. In this case, on the other hand, there was more cellular infiltration into the meninges and into the sheaths and perivascular spaces of the cerebral vessels. The use of Nissl's method revealed similar changes in the nerve cells, greatest in the cortex, and approximately equal in all its regions. In this case, too, the nerve cells of the basal ganglia and brain-stem were less affected than the cortical cells No degenerated medullated fibres were made visible by Marchi's method, but irregular masses, which stained dark by osmic acid, similar to those in Case 1, were found in the perivascular spaces of the brain.

Bacteriological examination.—The examination was conducted in the same way as in Case 1 and yielded similar results. The diplococci were, however, more numerous in the meninges of this case (Fig. 3) and groups of similar micrococci were easily found in the adventitial sheaths and perivascular spaces of the brain. (Fig. 4) Neither the heart valves nor pericardium were received for examination.

FIG. 3.



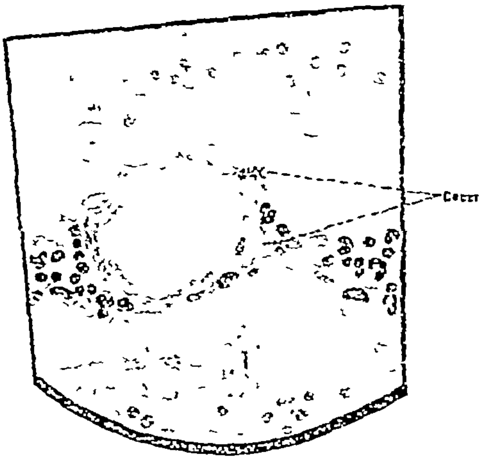
A film of pia mater showing the presence of two groups of diplococci. (From Case 2.)

CASE 3.—For the third case we are indebted to the kindness of Sir Cooper Perry and Dr. French. This was a case of chorea occurring in a first pregnancy without a previous history of chorea or rheumatism. It is clear that the interpretation of any of the results that we have obtained in this case must be made with minds alive to possible fallacies. We shall on this account plainly state that the results are put on record as facts observed in a single case only and the interpretation put upon these facts is left open to free criticism. The history of the case was published by Dr. French and Mr H. T. Hicks[5] and is as follows.

"R D, aged 21, had been married four months and was pregnant at the second month for the first time.

History.—She had had no previous chorea nor acute rheumatism The present chorea began at the second week of pregnancy. The movements were slight at first and got worse gradually. On admission she was so violent and noisy that she had to be taken to the strong room. Nasal feeding was resorted to, the choreic movements being controlled by chloroform. She was emaciated. There was no bruit.

FIG. 4.



From the cerebral cortex of Case 2, showing the presence of diplococci in, and cell infiltration of, the adventitial sheath of a vessel.

Result.—The uterus was evacuated after rapid dilatation under chloroform, the patient seemed quieter next day. The chorea ceased but the patient became collapsed and died on the fifth day after the uterus was emptied.

Autopsy.—There were recent vegetations all along the mitral valve, there were no infarcts Cultivations of the heart blood showed bacillus coli communis only. Cultivations from the spleen remained sterile after incubation for three days at 37° C."

A most interesting feature in this case, which, as we have just pointed out, gave no personal history of rheumatism, was the condition of the mitral valve. This valve showed a row of early vegetations which were indistinguishable from those on the valve of the first child that resulted from an obvious and exceedingly active attack of acute rheumatism. These two valves were sent to us in the same week, and their resemblance was most striking; nor did the resemblance cease here, for on section we found that the valve from the case in which there was no personal history of rheumatism and the valve from the active rheumatism both contained diplococci similar in appearance and distribution, and both showed tissue changes of similar nature.

Pathological investigation.—Only the brain and brain-stem and portions of the ulcerated cardiac valves were obtained. *Macroscopical examination.*—To the naked eye the brain was similar to that of the other two cases, but there was less vascular engorgement. *Microscopical examination.*—Vascular engorgement of the brain and its membranes was also a prominent feature in this case, but only very few thrombosed vessels could be found and in all these the clots appeared to be quite recent. None were fully organised and there were no such changes in their intima as would have resulted from long occlusion. No definite patches of softening were found, though around some of the thrombosed vessels the brain tissue was slightly necrosed and infiltrated by serum. There was also here less small round cell infiltration into the walls and perivascular spaces of the cerebral vessels, though in places it was quite marked.

While the changes in the vascular system were less in degree, though similar in kind, in this case than in the two above described, the affection in the nerve cells was considerably greater. In scarcely one of the cortical cells was tigroid visible in the form of ordinary Nissl bodies; the protoplasm stained diffusely or almost uniformly and generally darker than normal. The nuclei were definitely enlarged, especially those of the large pyramidal cells and the Betz cells, but the nuclear chromatin remained as a rule easily visible in a pale ground and apparently unaltered. In other cells, however, the nuclei retained so much stain as to make them appear dark and almost homogeneous; these nuclei were often smaller than normal and occasionally irregular in shape. In some cells, especially in the Betz cells, the nuclei were excentric, but in the majority they remained central. No pathological changes were observed in the nucleoli. Some of the affected cells, especially the larger ones, were considerably shrunken. These changes were equally marked in all parts of the cerebral cortex. The cells of the corpus striatum and of the thalamus were practically identically affected; no absolutely normal cell was found in them. Some were considerably swollen and all stained so diffusely that no clumps of tigroid could be distinguished either within them or their dendrites. The cell changes were less pronounced in the pons and medulla; the cells of the motor nuclei had undergone relatively slight tigrolysis and had merely a punctate appearance, due to fragmentation and partial absorption of the Nissl bodies. None of them were swollen and their nuclei were as a rule normal. The cells of the sensory nuclei and of the rest of the grey matter of the pons and medulla were somewhat similarly affected. The Purkinje cells of the cerebellum were only very slightly affected, but those of the nucleus dentatus had suffered more severely; they were swollen, their nuclei often lay excentric, and in the majority there was complete disappearance of the Nissl bodies. No degenerated fibres were found on examination by Marchi's method, but many of the medullated fibres of the forebrain were coloured a faint brownish tint, probably representing a slight chemical change in the myeline. The same evidence of degeneration products was visible in the perivascular spaces and vessel walls as in the other two cases.

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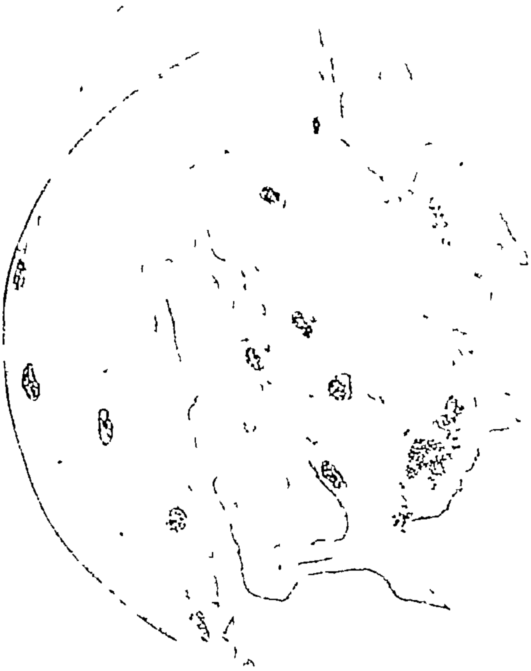
[5] Practitioner, August, 1906.

Bacteriological examination.—Micrococci, generally lying as diplococci and identical in appearance with those described in Cases 1 and 2, were found after careful searching in the pia mater of the forebrain and in the walls of the cerebral vessels. They were rather rare in the portions of tissue examined, but quite as numerous as in Case 1. Similar diplococci were also found in the diseased heart valve, in the same position as in Case 1. (Fig. 5)

FIG. 5.



Showing the presence of diplococci in the diseased heart valve of Case 3.

PART III.—THE PATHOLOGY OF CHOREA.

It now remains to interpret the results that were obtained in these three cases: firstly, in their bearing upon the nature of chorea; and, secondly, with reference to the relationship of chorea and rheumatism.

I. *The nature of chorea.*—In considering the changes described as the anatomical substratum of chorea we are unhappily limited by the fact that in none of the three cases was the spinal cord obtained for examination. Yet this restriction is not serious, for though definite pathological changes would probably have been found there, as in every other part of the central nervous system, it would be impossible to assume that the cord played any great part in the production of the choreal movements. For, quite apart from the distribution of the movements, their nature makes it highly improbable that they arise in the spinal cord. To quote Dr. J. Hughlings Jackson, "these movements are not mere spasms and cramps, but an aimless profusion of movements, of considerable complexity, much nearer the purposive movements of health,"[6] and therefore "it is certain that the part diseased serves in highly special and complex coördinations, and that thus it is a part very high up in the nervous system."[7]

The study of the central nervous system has shown that the pathological changes which form the morbid anatomy of the disease are composed of (1) vascular and inflammatory changes in the central nervous system and its membranes, and (2) changes in the nervous tissue itself, consisting of destructive lesions secondary to the vascular changes and of alterations in the morphological characters of the nerve cells.

The most prominent vascular change in all three cases was the great hyperæmia of all parts of the brain and the presence of thrombosed vessels; the latter were rather numerous in Case 1 but more rarely seen in Cases 2 and 3. Whether the thrombi were primary or secondary to embolism is impossible to say, but no emboli were seen in the sections which were studied. In Case 1 patches of softening were found associated with, and evidently a result of, these vascular occlusions, but they were very infrequent and rarely pronounced in degree in Cases 2 and 3. But more constant in all three cases was the evidence of inflammatory reaction shown by the presence of perivascular small round cell infiltration and serous exudation around the vessels. The consideration of these changes is interesting in relation to the theory of Kirkes, which was supported by Hughlings Jackson[8] and Broadbent,[9] that they are the etiological factors of the choreal movements. According to Dr. Hughlings Jackson it is apparent that the disorder of function must arise from instability and overaction of the nerve tissue, which he explains by the increase of nutrition due to the collateral hyperæmia that results from vascular occlusion by embolism, assuming, of course, that only the smallest vessels are occluded. Ingenious though this theory is, it is hardly acceptable on the evidences afforded by the investigation of our three cases, for though hyperæmia was very pronounced there was, in two of the cases at least, very little evidence of embolism on microscopical examination. It seems to us that there is a more definite reason for the congestion of the vessels which we shall consider below. Further, in view of the pronounced cell changes and the presence of micro organisms in the brain and its membranes, other possible factors must be considered. The foci of necrosis, we would add, may be neglected in seeking the causal agent, as they are purely destructive lesions and cannot, therefore, *directly* produce active or positive symptoms.

As the nerve cells of one or several regions must be the direct agent in production of the movements the changes found in them are important and claim our first consideration. At first the question arises, What is the significance of these changes? Under what conditions are they known to develop? The changes are those described by the term chromatolysis; they consist of partial solution of the stainable substance of the cell and slight alteration in the appearance or even position of the cell nucleus; in some of the cortical cells, especially in Case 3, the changes had advanced further, and both the bodies and nuclei of the cells stained deeply and homogeneously as though they had undergone coagulation necrosis. These changes represent a vital reaction of the cell to some abnormal influence. It is known that chromatolysis is found in cells which have been subjected to overwork, but the possibility of over-activity being the cause in these cases may be at once rejected, for the cell changes were universal throughout the brain and brain-stem, that is, they occurred in some groups of cells which it is groundless to assume were over-active. In the cells of the motor area, however, and especially in the Betz cells, over-activity may have had a part in the pathogenesis of the changes. They were certainly not the result of pyrexia, for the pyrexia in these cases was not considerable, with the exception of the last few days of life in the case of chorea of pregnancy.

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[6] Edinburgh Medical Journal, vol. xiv., 1868.
[7] Medical Times and Gazette, 1875.
[8] Ibid., 1869.
[9] Ibid., 1875.

The assumption that the changes described are due to the action of bacterial toxins, on the other hand, is suggested by the frequent association of chorea with the undoubtedly infective condition known as rheumatism, and by the discovery of micro-organisms in the central nervous and vascular systems, both by ourselves and other workers. This view is compatible with the results of examination of the nerve cells in other infective diseases—e.g., diphtheria, typhoid fever, and septicæmia, where analogous changes have been found (Babes, Marinesco, and others). The assumption of a bacterial toxin (whether specific or not matters not) explains also the local vascular disturbances, which may be regarded as a reaction to its presence, and the presence of degeneration products in the walls of the vessels and the evidence of the slight chemical change revealed by Marchi's method in the medullated fibres of Case 3.

If it is accepted that the action of a toxin is the immediate agent in the causation of choreal movements the question then naturally arises, If chorea is cerebral rheumatism in the sense that it is produced by the same bacterial poisons which give rise to the symptoms of ordinary acute rheumatism, is it necessary that there should be infection of the brain and its membranes by the bacteria, or is it sufficient that the toxins should be carried by the blood and lymph from some other seat of manufacture? It does not seem possible to give an absolute answer to this question, though the presence of bacteria in the brains of the three cases we have examined suggests that its affection depends on the direct invasion of it by the bacteria. The occurrence of hemichorea also makes a local infection probable, as unilateral symptoms can be scarcely attributed to a general infection; it is also supported by the previous demonstration of the diplococcus rheumaticus in all the other important lesions it produces. On the other hand, it must be borne in mind that it has been shown by Laignel-Lavastine that similar changes in the brain cells may be the result of tuberculous toxæmia without bacterial infection of the brain, and Babes and others have found similar cell changes after the experimental injection of toxins alone. The examination of a series of brains from cases of acute rheumatism without cerebral symptoms will be necessary to decide this point.

It now remains to attempt an explanation of the production of chorea by these toxins, whether produced locally or circulating in the blood and lymph. Here we have to deal with the little-understood physiology of the nerve cell and our arguments are consequently more or less limited to analogy. Thus, it is well known that symptoms of instability and over-action of the nerve cells, analogous, if not similar, to those of chorea, may result from the action of the toxin of tetanus and that similar excess of movement is produced by strychnine. Nor does the possible analogy end here. The excess of activity produced by strychnine, and perhaps, too, by tetanus, may be followed by paralysis of the concerned movements, presumably due to exhaustion of the nervous centres, and it is possible that some of the choreal palsy may be due to a similar exhaustion of the active centres, although it seems to us more probable that the palsy of movement so frequently seen in chorea is a direct effect of toxic action. It is conceivable that the same toxin which produces symptoms of excitation may, when acting in greater concentration or more rapidly, paralyse the functions of the cells. Such a reversal of action is seen on the administration of morphine or chloroform; small doses acting for a short time produce excitation, while in larger amount they annul the functions of the previously excited centres. This toxin, though probably specific in the sense that it is constantly the product of a single variety of bacteria, has certainly no special action on any part of the central nervous system in the sense that it affects these and spares the others, for both the vascular and nerve cell changes were found in every region of the brain and brain-stem. The explanation of the predominant affection of the motor system in chorea is probably that its symptoms are always the most apparent and that it is the system which reacts most easily to excitation. But chorea is not composed of one symptom alone, there may be in addition positive or negative symptoms of speech, sensation, and even of the highest psychical state. The anatomical basis of such disturbances of function is represented by the changes described in the nerve cells in the different parts of the brain.

The aim of this paper is such that it is not necessary to commit ourselves to a definite expression of opinion as to the disturbance of what portion of the nervous system yields the predominant symptom of chorea. It has been assumed, though often only tacitly, by the majority of authors that the higher motor centres are concerned and it has therefore been placed in the cerebral cortex, or, in the prelocalisation days, in the corpus striatum. As Dr. Hughlings Jackson has so clearly shown, the nature and distribution of the movements, as well as the general physiology of the disease, confirm this view, but the pathological changes are so general and widespread throughout the whole central nervous system that they can neither support nor contradict any theory of localisation.

II. *Chorea and rheumatism.*—We are thus lead by this study to the conclusion that the causation of chorea is to be found in the action of bacterial poisons on the brain. Further, the available evidence points to the occurrence of a local infection to which the widespread changes in the nervous system are due. Finally, we believe that this infection is of a rheumatic nature; it is, then, necessary to see how far it is possible to correlate this conclusion with the association of chorea and rheumatism.

The first point in this consideration is the frequency of the association of chorea and rheumatic fever. This is explained by looking upon chorea in the rheumatic as a symptom of rheumatic infection and by regarding the "diplococcus rheumaticus" as the cause. This, too, explains the clinical truth that chorea may be the first evidence of acute rheumatism or be one of many coincident manifestations or be a late episode of the disease. Which of these events may happen will depend upon the date at which the cerebral infection occurs. If we accept the undoubted fact that chorea may be the first symptom of acute rheumatism we are at once confronted with the question whether or not chorea is invariably a manifestation of acute rheumatism. It will be a distinct advance in our knowledge when the answer to this is finally settled. The difficulty is apparent and turns upon the doubt as to whether such movements and such cerebral disturbance as we see in chorea can be produced by more than one agent. At the present time there is evidence upon both sides but the bulk of it strongly favours the view that chorea is mostly rheumatic and that when chorea occurs without any history of rheumatism it is presumably the primary rheumatic symptom and in practical medicine is best looked upon as a stamp of rheumatism.

The tendency for chorea to relapse or to occur several times in the life of an individual is explained in precisely the same way as the relapses and recurrences of rheumatic heart disease and arthritis; that is to say, either there is a fresh outburst of a slumbering infection or a fresh infection has occurred. The onset of chorea is not unlike the onset of the other rheumatic manifestations, for, as with these, it may be gradual, subacute or acute. If the infection is slow in making itself felt, and yet eventually succeeds, then the course of the chorea is slow. The acute cases, on the other hand, recover more rapidly. Should chorea arise while the patient is under observation this sequence of events is observed whatever method of treatment is adopted, the stage of onset, the stage of the developed disease, and, lastly, the stage of retrogression. This is the course that we notice in all infections that cannot be cut short by some specific remedy.

When chorea follows acute arthritic or cardiac rheumatism the cerebral infection may date from the original one, and have remained latent for some time, for there is no doubt that chorea may smoulder on for weeks without distinctly declaring itself. In other cases an entirely new infection may have occurred, which this time has attacked the brain. Lastly, the cerebral infection may be metastatic, in the sense that it has arisen after the original attack of acute rheumatism by a metastasis from a focus of infection elsewhere, which itself was the result of the original attack; this focus may be situated, for instance, in the heart or in the joints. As Vernon Shaw has demonstrated in animals, a primary focus in a joint, produced by a local injection of the diplococcus, may be followed by the appearance of pericarditis. Chorea is thus very reasonably explained both as the first symptom and the last of acute rheumatism, and when it occurs simultaneously with arthritis and endocarditis it is clearly part of a widespread infection. The complete recovery that so frequently occurs in chorea is not infrequently brought forward as an argument against its rheumatic origin. It is, however, clear that acute rheumatism is a disease to which there is great resistance, for it is rarely fatal; and it is also evident that the various tissues resist the poisons with different degrees of success. The heart often recovers partially but is usually maimed; the joints often recover completely, pleurisy generally leaves adhesions, but the subcutaneous nodules and cutaneous eruptions disappear. The renal inflammation, again, is usually transitory. Chorea is to be grouped among the more transitory of the rheumatic lesions, for although there is no doubt that some cases may last for many years the anatomical lesions are clearly recoverable as shown from the pathological changes in these cases.

At this point we would make passing allusions to the probability that even more delicate changes occur in the nervous system as the result of rheumatism. Clinical observers have pointed out that rheumatic children are singularly nervous and emotional and there is no doubt that a child's nature may be greatly changed by an attack of rheumatism, particularly if this should be of the cerebral type. To our knowledge parents have volunteered this statement where examination has shown that no cardiac lesion has been left behind and the active attack of rheumatism has certainly subsided. It is possible that such psychical alterations are the result of organic changes of an even more delicate nature than those met with in chorea.

A difficulty which attends the complete explanation of other infective processes which affect the brain is equally present with chorea. We cannot say why in some cases the brain suffers and in others it does not. The well-known importance attached to fright in the etiology of chorea has close bearing upon this difficulty, for overstrain of any system tends to lower its vitality and in the case of the nervous centres, whether that overstrain be abrupt, as in fright, or chronic, as in the strain of school-work or mental anxiety, the lowering of the vitality is a predisposing cause for the rheumatic infection to gain a foothold.

PART IV.—CHOREA AND PREGNANCY.

The third case in which chorea was associated with pregnancy raises two questions of importance. Firstly, whether this chorea is a rheumatic chorea intensified by the condition, and secondly, a far wider one concerned with the influence of pregnancy and the puerperal state upon the rheumatic infection. Chorea in pregnancy is probably a rheumatic chorea. We get support for this statement from the clinical observations of others upon the association of rheumatism and chorea in pregnancy. Thus in a recent paper by Wall and Russell Andrews[10] Buist's statistics are quoted, who found that in 226 cases of chorea in pregnancy 45 gave a previous history of rheumatism and 66 a previous history of chorea. From their own observations they found that in 23 out of 37 cases of chorea in pregnancy there was a previous history of chorea and in 16 out of 37 a previous history of rheumatism. Still more recent and equally convincing evidence is furnished in a paper by Dr. Herbert S. French and Mr. H. T. Hicks[11] Here 29 consecutive cases of chorea gravidarum were reviewed from the records of Guy's Hospital and in no fewer than 19 of these there was a previous history of rheumatism or chorea and 15 of these 19 had suffered from chorea before marriage. As a result of their investigations these authors add: "This is so large a proportion of the whole that we feel convinced that chorea gravidarum and infantile chorea have a similar pathology." This single case of ours strengthens the position to this extent, that it has enabled us to show the presence of a diplococcus in the nervous system and heart valves and to demonstrate that the morbid changes in the brain are essentially similar to those in rheumatic chorea. Further, the mother of the patient was at the same time in Guy's Hospital suffering from recurrent ascites due to heart disease. There are, then, the chorea, the condition of endocarditis of the mitral valve described above, and the nature of the mother's illness, which legitimately suggest that this woman was suffering from a rheumatic chorea. It will not be forgotten that in childhood chorea may be the only evidence of rheumatism, and it is difficult not to believe that when in a case of chorea we search for a history of rheumatism we may often be in the position of one searching for a history of tuberculosis in a patient suffering from tubercular meningitis. We are, in fact, looking for evidence of a disease with that evidence staring us in the face. It is also becoming increasingly apparent that the most frequent cause of chorea in pregnancy is, in all probability, a rheumatic infection. Two cases under the care of one of us are worth mention in this context. One of these while a child was a patient in the Hospital for Sick Children, Great Ormond-street, with chorea and rheumatic endocarditis. At the age of 16 years she became pregnant and was admitted to University College Hospital suffering from chorea of terrible severity from which, after a very long and severe illness, she recovered. The other was a young woman who suffered from rheumatism with chorea as a girl, who passed through a first pregnancy without chorea and developed chorea 12 months later when she was not pregnant. Finally, it is recognised that induction of labour does not so influence the course of these cases of chorea that the pregnancy can be claimed to be more than a predisposing cause. All these points suggest that the chorea in pregnancy is of the same nature as the chorea of childhood.

The second and wider question of the influence of pregnancy and the puerperal state upon rheumatic infection needs prolonged investigation. We have, on the one hand, a great infective process, the rheumatic, and on the other, an important physiological process, which in some measure disturbs the entire metabolism of the individual. Chorea is more obstinate and dangerous in pregnancy, heart disease is liable to be more active, and arthritis more obstinate. Concerned with the same problem is the possibility that a puerperal fever may result from a rheumatic infection at the end of pregnancy and it is known that direct infection of the fœtus may occur.

Finally, we would point out that the conclusions from our paper in the first place support the clinical evidence that chorea is a manifestation of acute rheumatism; and secondly, that the demonstration of diplococci in each of the three cases is a striking confirmation of the assertion that "the diplococcus rheumaticus" is the infective agent in acute rheumatism.

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[10] Transactions of the Medical Society, vol. xxvi.

[11] Practitioner, August, 1906.

THE TYPE IN SCHOOL BOOKS AND COLLEGE TEXT-BOOKS.

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THE vision of many school children and college students is defective owing to myopia. In a private boys' school which I recently examined 23 per cent. of the scholars were myopic; and of 55 students who have just entered the department of education of the Victoria University (for training for school teachers) 15 are myopic—i.e., 27 per cent.

Though there is a difference of opinion as to the production of myopia, there can be no doubt that prolonged eye strain during school life often causes or increases this defect. Many ophthalmic surgeons regard this eye strain as the most important of the causes of myopia. The whole subject has been carefully studied by many observers and by no one more thoroughly than by the late Professor Cohn of Breslau. Space does not permit any account of his conclusions,[1] but they furnish the strongest evidence of the injurious influence of severe eye strain during school life.

One important factor in the causation of this injurious eye strain is the bad type of many school books and it is very desirable that more attention should be devoted to this subject by those who have the supervision of the education of school children and college students. A small bad type in school books and college text-books not only causes eye strain and tends to produce myopia but also, owing to the eye strain caused by reading such a type, there is often difficulty in concentrating the attention on the subject of study and diminished interest in it. For these and other reasons it is most important that the type of school books and college text-books should be tested, as is done in some continental towns, and when it is found to be defective an endeavour should be made to obtain books printed in a *satisfactory type*. Of course, it would be absurd to choose books for study simply on the merits of the type; but when the type of any desirable book is found to be defective if the authorities of the school in which it is used strongly urged the publishers to print the work in a satisfactory type there is little doubt that this would be done, especially if the school authorities clearly intimated that the use of the work would be discontinued if the type were not improved.

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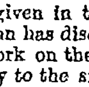
[1] I have stated the most important of these conclusions in a pamphlet on School Hygiene, published by Sherratt and Hughes, Manchester, 1904, p. 11.

There are many points of importance with respect to the printing of books in order that those who read them may not suffer from eye strain. These are given in the various works on school hygiene.[2] Professor Cohn has discussed the whole matter most thoroughly in his work on the subject.[3] In this short article I wish to refer only to the size of the printed letters and the distance of the lines apart. There is no absolute rule on these points, but the minimum size of type which Cohn would allow may be taken as a fair estimate for practical purposes, and I think that probably most of those who have studied the subject will allow that no type should be employed for school books and text-books which is smaller than Cohn's minimum.

The following are Cohn's conclusions on the size of type, the letter "n" being used for measurement: The height of the smallest "n" *should not be less than* 1·5 *millimetres*; the least distance between two lines of type 2·5 millimetres; *the thickness of the stroke of the letter* not less than 0·3 millimetre; the greatest length of the line 100 millimetres (about four inches); and the greatest number of letters in one line 60. Cohn has devised a simple test of the size of type—a test which indicates whether the type is smaller than the minimum just mentioned. A small square hole is cut in a piece of thin cardboard (or in a visiting card), the hole being exactly one square centimetre.[4] The card with the centimetre square hole is placed on the printed page of the book, the lower edge of the square *being immediately* above one line of print. A satisfactory type should be so large that only *two* lines of print can be seen in the centimetre square: if more than two are seen the type is too small and should be condemned.

Size of hole in test card:

(Square centimetre.)



The distance of the lines apart is very important, since a small type with the lines well *separated* is more easily read than a larger type with the lines close together.

Taking Cohn's square centimetre test as a trustworthy standard I have examined the type of 250 school books and college text-books with the following *results*. The type was equal to or larger than Cohn's minimum (i e., not more than two lines in the centimetre square) in 109 books. In 30 other books there were in some paragraphs two lines, in other paragraphs three lines in the *centimetre square*. There *remained* 111 out of the 250 books (44 per cent) in which the type was decidedly too small—i.e., three lines or more in the centimetre square. The exact results were as follows:—

	Books	Number of lines seen in Cohn's centimetre square
139	109	2 or 1.
	30	2 in some paragraphs, 3 in others.
111	93	3.
	3	2 in some paragraphs, 4 in others.
	9	3 in some paragraphs, 4 in others.
	5	4.
	1	5.

Defective type as regards size and distance of lines apart, in 111 out of 250 books = 44 per cent.

The type of school books has certainly improved very much in the last 30 years. In 78 per cent. of a series of old school books, printed between 1870 and 1878, the type was defective—i.e., three lines or more were seen in the centimetre square In the 250 modern school books which I examined the defective type was met with most frequently in books on mathematics (arithmetic, algebra, trigonometry, &c.). In *67 per cent. of the books on mathematics* the type was defective The small cheap elementary works on science *had also very frequently a defective type*. *Books* on history, geography, travel, and books of general information were usually well printed and so were the elementary reading books for the junior classes. Many of the books of this class were beautiful *specimens of the printer's art*. *But* in cheap editions of poetical works and of standard English literature the type was often very small and defective. Particularly defective was the *type of a large number of the* very cheap editions of well-known novels (in school libraries) which are so eagerly read by the schoolboys and youths. Interesting books of this kind are specially liable to damage the eyes if printed in very small type. One of the worst printed books examined was a very cheap edition of "Robinson Crusoe" for schoolboys. I have tested the type of *40* books in the library in the reading room of a large hotel, the books being chiefly cheap editions of standard English authors. The *type* was *particularly bad*. *In 23 out* of the 40 it was defective. The worst was an edition of Shakespeare *in* which there were *six lines* of type in the square centimetre and many poetical works had four lines of *type to the centimetre square*.

Often the type of the Bibles used by school children is exceedingly small; frequently there are six or seven lines to the square centimetre. Of course, Bibles are printed by the British and Foreign Bible Society in all sizes of type, and cheap Bibles can be obtained for schoolboys in satisfactory types, whilst other schoolbooks are usually printed only in one type. There are good reasons, no doubt, for the printing of some Bibles in very small type, but the Bible Society *would do well to issue* "*school Bibles*" printed in a type not smaller than that of Cohn's minimum (two lines in the centimetre square). Atlases are often printed in a very small type and the maps crowded with names Often the height of the letters is only 0·5 of a millimetre, and often five or six names can be seen in the square centimetre in addition to the indications of rivers, mountains, boundaries, &c. This, *of course*, causes great strain to the eyes of the pupils. It is most desirable that a larger type should be used in the atlases for school children and that fewer names and details should be given. In most of the maps printed by the Royal Geographical Society (in the *Geographical Journal*) the type is much larger and clearer, though many of the less important names are printed in a type a little smaller than Cohn's minimum. These excellent maps *might be well* adopted as a standard of the minimum size of printing for school atlases.

The type in the text-books used by medical students and in larger works on medicine is now usually satisfactory but there are some books in which it is still very defective. The results of the examination of 33 of the modern text-books most frequently used by medical students were as follows:

Books.	Number of lines seen in Cohn's centimetre square.
18	2
3	2 in some paragraphs, 3 in others.
12	3

Thus in 12 of the 33 books (about 36 per cent.) the type was defective as regards size and difficult to read for a long period without *eye strain*. The worst type was in two well-known books on materia medica and therapeutics.

In eight out of ten *advanced* English works on medicine only two lines were seen in the square centimetre; in the other two books in most paragraphs two lines were seen in the *centimetre square*, in some paragraphs three lines. In ten advanced German or Austrian books on medicine *all* presented only two lines of type in the centimetre square. Probably many students reading hard for examination will have noticed how much more easy it is to study a book on any subject with good type than one with small defective type.

The type of most English medical journals is satisfactory as *regards size*. The *results of the* examination of 40 journals with Cohn's centimetre square were as follows:—

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[2] Also in the pamphlet which I have already mentioned.

[3] Cohn and Rübencamp: *Wie sollen Bucher* und Zeitungen gedruckt *werden?* Braunschweig, 1903.

[4] Cards with a centimetre square for measuring *the size of type* can be obtained by post from Herr F. *Tiessen, Inh.* E. Schultz, Schmiedebrucke 30-32, *Breslau*, I., Germany.

Medical journals.	Number of lines in Cohn's centimetre square.
35	2
2	2 in some paragraphs, 3 in others.
1	3
1	2 in leading articles, 3 in original papers, 4 in smallest type.
1	3 in leading articles and original papers, 4 in smallest type.

Thus only three out of 40 have a defective type as regards size; but two of these, the two journals last mentioned, have the largest circulation, and I think most readers, who are over 40 years of age, sometimes wish the type could be made a little larger.

There are many other points of importance in the printing of books which space does not permit to be considered in this article. But the figures which I have given show clearly that, apart from other defects, the size of the type and the distance between the lines in a large number of school books are too small if the minimum of the best authors be accepted. Apart from actual measurements, in many of the school books examined, it was evident from simple inspection of a printed page that the type was too small to be read for any length of time without great eye strain.

Since so much attention is now being directed to school hygiene, and since we have in Cohn's square-centimetre test such an easy method of detecting the two most important defects of type (size of letters and distance of lines), it is to be hoped that the printing of school books will receive more consideration in the future. If those who have the supervision of the education of school children and students demanded that the type of school books should be satisfactory the risks of eye strain and myopia would be diminished nd the study of many books would be made easier.

Manchester.

AGORAPHOBIA—A REMEDY.

BY CHARLES MERCIER, M.D. LOND., F.R.C.P. LOND.,

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AGORAPHOBIA, or fear of open spaces, is, in my experience, not nearly as common a malady as its antithesis, claustrophobia. Both are curious, and somewhat anomalous, states of mind, in which an aversion, which is known and admitted by the subject of it to be irrational and absurd, nevertheless dominates conduct, prompts the execution of irrational acts, and renders certain rational and desirable acts impossible.

If I had to speculate on the origin of these curious and spurious instincts, for such they may be termed, I should assign them to the revival of instincts which existed in full force, and had great biological value, in our remote ancestry, but which in most of us have long been obsolete. When our ancestors were arboreal in habit, this habit was their salvation from extinction. Feeble in body, destitute of weapons and of defensive armour, devoid of means of concealment, their safety from carnivorous foes lay in the agility with which they could climb out of reach, and in the accuracy with which they could leap from bough to bough and from tree to tree. Whenever they descended to the ground, they were in danger. It is on the ground that the greater carnivora pursue their prey; and, adapted as our ancestors were to arboreal life, their progress on open ground was undoubtedly less rapid than among the tree tops, and most probably less rapid than that of their principal foes. Among the tree tops they were secure. There, no enemy could vie with them in activity, or hope to overtake them; but on the ground they were at a disadvantage. On the flat, they had no chance against the spring of the panther or the speed and wind of the wolf; but once let them attain the security of the forest, and they could grin and chatter with contempt at their helpless enemies below. The farther they ventured from their secure retreat, the greater the peril they were in; the nearer their refuge, the more complete their sense of security. Since instincts, using the term in the sense of mental cravings, become adapted to modes of life, which, in turn, they dictate, we may be sure that, in the arboreal stage of their existence, our ancestors had a very strong instinctive aversion to any extended excursion from their place of security and refuge. Near to trees, they were in safety; far from trees, they were in continual danger, and therefore in continual uneasiness. In such a situation they had an abiding and well-founded dread and sense of impending danger.

This is the state of mind which, as it seems to me, is reproduced in similar circumstances in agoraphobia. The craving of the subject of this malady is to be near, not trees necessarily, it is true, but near to some tall vertical structure. Away from such a structure, he has just the feeling of dread, of impending danger, of imminent disaster, of something dreadful about to happen, that a man would have who was walking through a jungle infested by tigers, or that a child has when alone in the dark. And this is just such a feeling as we may suppose our arboreal ancestors had when they were out of reach of their natural habitat. I have seen a woman affected with agoraphobia get from one side of a court, to the other by not only going round by the wall, and touching it all the way, but squeezing herself up against it, and clutching at the bare surface. Sufferers from this malady cannot cross an open space. They cannot venture more than a step or two from some vertical surface. They feel no uneasiness in a colonnade, open all around them though it be. Their reason tells them that their dread is groundless, but reason is powerless against instinct, and an imperious instinct shouts danger in their ears.

The opposite malady—claustrophobia—seems to me to reproduce a state of affairs of much later occurrence in our racial history. When arboreal habits at length began to be abandoned, and our anthropoid ancestors began to shelter themselves in hollow trees, in caves, and holes in the ground, there must often have been a conflict between the immeasurably old, primitive habit of roosting under the open sky, and the modern innovation of taking shelter from the weather. The sense of confinement must have been very irksome. We may be sure that there was no sudden revolution in the mode of life. The new habit was adopted very gradually. Only in some very violent storm would the first indwellers creep into a hole for shelter, and they would soon find their circumscribed quarters intolerable, and brave the elements as soon as the weather began to moderate. Perhaps the new instinct was first implanted in the young, by the parents bestowing their tender offspring in holes during their own absence or when cold and rain became severe. It is not easy to teach an old dog new tricks; but a young wild rabbit or squirrel, taken at a very early age from the nest, never acquires the untameable wildness that is so conspicuous a feature in the character of the old. In any case, the habit of taking shelter in more or less closed spaces was a habit of slow and gradual acquirement; and we may be sure that it was not acquired without many a relapse and many a backsliding. We can almost hear the jeers and scoffs of the stout old Tory anthropoids at the effeminacy of their degenerate juniors, who should seek a shelter that their forefathers would have scorned. The habit has not yet been fully acquired by all our race, for we see, even at this late day, many persons of human status to whom the shelter of a roof is abhorrent, and who prefer, in the worst of weather, to lie out under a hedgeside rather than submit to the restraint of roof and walls.

It is to the imperfect acquisition of this later instinct of seeking shelter in confined spaces; or rather it is to the re-assertion over it of the more remote and earlier instinct of craving for the open sky, and irksomeness of confinement, that the malady of claustrophobia seems to me to be due. In the subject of this malady is revived in its original strength that craving for open sky and open air, for possibility of movement in every direction, which were ingrained in our ancestors by their free arboreal lives; and which were overcome with such difficulty when first they descended to inhabit *terra firma*. Like the sufferer from agoraphobia, he who suffers from claustrophobia experiences the revival of an ancestral instinct that has been obsolete for untold generations, but that has been lost more recently than that revived in agoraphobia. Since it existed down to a later date; since it has been more recently lost, it is more easily revived; and this is the reason, I think, that claustrophobia is so much less rare than agoraphobia.

Whatever their origin, the two maladies are equally inveterate. They are refractory to remedies. They are recalcitrant to treatment. They endure for years, and often for a lifetime. Hence it may be useful to place on record a case in which a cure has been effected, even though the remedy that proved so efficient is open to certain objections and is not applicable to every case.

A tall, spare man, with an expression dejected, undecided and ineffectual, came to me complaining of being "nervous and thoroughly run down." He could not concentrate his mind on his work; was always thinking of something else than his duty; his mind was confused; and he was in constant dread of he knew not what. He felt as if some great evil were impending over him; fancied he must be going to die; could not keep himself calm and collected, but was always agitated, nervous, and apprehensive. With the exception of constipation, sleeplessness, and occasional headaches, his bodily health was good. In addition to these troubles, he had very definite agoraphobia. In going to and from his office, he would sneak through all the alleys, courts, lanes, and narrow streets he could make use of. When he came on a wide street, he was seized with panic,—reasonless, groundless panic, that he knew to be reasonless and groundless. He felt as if something awful were going to happen. He could not walk along a wide street; he had to take a 'bus, or, if the street were not very wide, he might get through it by holding on to a cart. If he did not do this, he was sure he would fall down. He was afraid he would scream out, and make a scene. Bridges were quite impassable to him. If he were compelled to go over a bridge, he had to get into a 'bus some time before he came to it, and keep his eyes shut as he went over it.

Under ordinary remedies, he improved very much, so that, at the end of a week, he had the best night he had had for years. He gradually recovered his powers of concentration; became able to work efficiently; lost his headaches; ceased to feel the dread of impending evil; and was able to walk with comfort in a moderately wide street. He continued to improve, until at the end of two months, he was well, and had lost all his troubles except his agoraphobia, and that was diminished. I told him that this was a matter for which little could be done; that it was in its nature an enduring malady; that though it had somewhat improved, I feared I could do no more for it; that he must contrive to bear it as well as he could, and hope that in time it would wear away; and I advised him that he need not see me again unless he had a relapse of his other troubles.

I saw him no more for nearly four months, when he entered my consulting-room with an expression of face that puzzled me much. I had told him to return no more unless he relapsed, lost his power of concentrating his mind upon his work, or had a return of his accessions of dread and feelings of impending evil. But it was obvious at a glance that he came back for no such reason. His face, that used to be overcast with gloom and anxiety, was tranquil, placid, and I thought I detected even a lurking look of triumph. His irresolute step was become firm; his manner decided; and his whole being seemed changed and strengthened.

I expressed my regret that he had had to come back to me, and thereupon his face fell. He said he had had a dreadful shock; a terrible trouble. His daughter had run away from home, and joined a lover. It had been a frightful shock to himself and his wife. Still, he did not look shocked. On the contrary, he appeared complacent and contented. Then the murder came out "What I have come for, is not to consult you about my health, but to tell you that this shock has completely cured me. I have not the slightest difficulty in going anywhere I like. I can go through wide streets, over the bridges, across Trafalgar Square, and even into the parks. I can go anywhere and do anything just like anyone else; and this recovery came to me suddenly, immediately after I had this dreadful shock. I thought it would interest you to know."

It certainly did. It is the only case of agoraphobia that I have ever known to recover completely, and the manner of the cure was sufficiently striking. Having congratulated him duly, I proceeded to inquire into the circumstances of the elopement, and learnt that the girl had fled to the house of her lover's parents, in consequence of the persistent opposition of her own parents to the match; that the young couple were now safely married; and that the objection to the match arose from no moral obliquity, inequality of station, or deficiency of means on the part of the son-in-law, but merely from a want of congeniality between him and the bride's parents. Having extracted this information, I ventured to point out that as it was the daughter, and not the parents, who had married the young man, the objection was not a fatal one, and I took on myself to advise the bride's parents to be reconciled to their daughter and her husband, against whom there appeared to be no reasonable objection. After a little persuasion, they adopted this view, and went away without a cloud on their happiness.

As already stated, the therapeutic agent that proved so successful in relieving this patient of his troublesome malady is one that can scarcely be used as a routine mode of treatment. The next patient that consults me for agoraphobia, I may be able to cure by running away with his daughter; but the mode of treatment has inevitable limitations. Supposing the first dose, if one may so call it, to be unsuccessful, would the therapeutist be justified in repeating it, and if so, how often? Suppose the patient has but one daughter, whose abduction is found inefficacious, would one be justified, as a further means of treatment, in running away with his wife? Fortunately, agoraphobia is one of the less frequent maladies that afflict mankind. Were it frequent, it is evident that the house of the specialist who should treat it on these lines might become inconveniently crowded. There are other difficulties, moreover. Not every patient who suffers from agoraphobia has a marriageable daughter. Some of them are themselves unmarried. In such cases, ought one to advise them to marry, with the prospect of having some day a daughter, who should in time become marriageable, and competent to take part in the treatment? Such a course would be vitiated by delay and uncertainty. At the best, it would be years before the effective part of the treatment could be put in action; and at the worst, the unfortunate patient might be tantalised by the appearance of an unbroken series of sons. It is to be expected that such a patient might lose patience, and refuse to continue the treatment beyond a certain number of decimals. In addition to these objections, which are not captious or trivial, I can see the possibility of others. It is not every patient who would suffer a terrible shock on hearing that his daughter had married a very eligible young man, even though the marriage were without the consent of the parent. Finally, it is clear that there are persons to whom this mode of treatment could not possibly be applied. Some of the sufferers from agoraphobia are old maids.

Of course, filial abduction is not the only way of administering such a shock as may prove curative. It is open, as we have seen, to various objections, and it would be advisable to find a method that should be more generally applicable, and attended with fewer inconveniences, both to the patient and his medical attendant. It is probable that if the patient were to discover suddenly that his house was on fire, or that he had lost his fortune, the resulting shock would be quite as severe, and therefore equally efficacious. There are, however, legal difficulties in the way of setting fire to a man's house, or robbing him of his fortune, even though these acts are done with the praiseworthy motive of curing him of agoraphobia; and it is to be remembered that the curative effect is by no means certain. We have only a single case to go upon. Short of these methods, which may be regarded as somewhat heroic, there are other modes of administering shocks, of minor intensity, it is true, and therefore less likely to be radically curative; but still, a mitigated trouble might produce an amelioration of the symptoms, even if it did not effect a complete cure. The patient might be upset out of a boat; he might be compelled to cross from the Mansion House to the Bank at noonday; he might have a dose of liquozone; he might be taken for a ride in a motor 'bus; or perhaps best of all, he might be compelled to dine at the Hotel Magnificent, and be presented with the bill. If the shock thus inflicted should prove inefficacious, it might be safely assumed that further treatment on these lines would give no result.

Seriously, the event of the case above related, if it do not place in our hands any very efficacious curative agent, does at least teach us that the malady is not as deep-seated as its long continuance and recalcitrance to treatment might lead us to infer. In these respects, as well as in its sudden recovery upon a great emotional shock, it betrays an affinity to hysteria, and may probably be found amenable to treatment by imperative suggestion (by which I do not mean hypnotic suggestion), such as is sometimes so efficacious in hysterical maladies

Wimpole street, W.

A CASE OF

CEREBRAL TUMOUR, GIVING RISE TO JACKSONIAN EPILEPSY AND, AT A LATER STAGE, COMA;

OPERATION; REMOVAL OF TUMOUR; RECOVERY.

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THE patient in the following case was a man 27 years of age. He was admitted to a surgical ward in Glasgow Royal Infirmary on July 1st, 1906, having been transferred from the medical wards in charge of Dr. David C. McVail, where he had been under treatment since Dec. 28th, 1905. The history supplied from the medical side of the infirmary was to the effect that he had first come under notice in 1904, suffering from a large sore over the sternum, which yielded to antisyphilitic treatment. He remained well after this until March, 1905, when he began to suffer from headaches which soon became constant and severe, the pain being particularly located over the vertex. Then giddiness and vomiting began to accompany the pain and would sometimes occur two or three times daily. The first epileptic fit occurred on Dec. 12th, 1905, nearly seven months before his transference to the surgical ward. An aura, consisting of a tingling sensation in the right foot, occurred first, followed almost immediately by contraction of the muscles of the right lower limb. The convulsion then became general and the patient lost consciousness. The fit lasted three minutes and he was weak after it but not dazed. Five similar attacks occurred during the next two weeks and it was then noticed that he suffered from a paresis of the right leg which soon involved the whole right side, with the exception of the face. He was still, however, quite able to move about but dragged the right limb slightly in doing so. The eyesight and hearing were good at this time but it was noticed that his memory was becoming defective. He slept badly.

Early in January the patient had two or three fits, one of which was of an intermittent character and lasted in all some five hours. In at least one fit which he had about this time the aura and also the convulsive movements began in the right arm and not in the leg. From this time onward the fits became less frequent and the headache less severe, but latterly the sickness and vomiting became so frequent that it was deemed advisable to stop the specific treatment which, up to now, had been regularly carried out. Up to June 24th he was able to leave his bed and to look after himself fairly well, but from this date onward his condition became rapidly worse and he was accordingly transferred to the surgical wards under my charge, while acting for Dr. Peter Paterson.

On admission to the surgical wards the patient was found to be in a rather drowsy condition. His pulse was slow (52 per minute) and full and his temperature was subnormal (97° F.). He lay very quiet, never trying to turn or to sit up. When roused, and there was generally some difficulty in rousing him, he took some time before answering a question, and then answered slowly by a monosyllable. "Yes" and "No" were practically the only answers he gave, and sometimes he seemed to have great difficulty in saying "Yes," as, while the lips moved, no answer came. Frequently no answer whatever was given. He never asked for anything. He could move a limb when asked to do so but the right leg was moved with difficulty, chiefly by the trunk muscles, while the right arm was absolutely paralysed and there was right facial paresis. Swallowing was accomplished with difficulty and some degree of choking frequently occurred even with liquids. He could not protrude the tongue. Urine was passed in bed and, in spite of vigorous medicinal treatment, there was absolute constipation. With regard to the eyes, both pupils were sluggish but the left one was dilated and irresponsive save to very strong light. On examination with the ophthalmoscope optic neuritis was found to be very marked over both discs, the left being more markedly affected. Ptosis was marked on the left side. He had no fits for over six weeks prior to his transference to the surgical wards, nor had he any during the few days that he was in the surgical ward prior to operation.

From the foregoing history and symptoms the presence of a tumour in the left motor area, involving principally the leg and arm centres, and giving rise to very considerable pressure, was diagnosed. Two points of difficulty, however, arose. The first was the slight discrepancy between the history of the onset of the fits and the present condition of the limbs. The history stated that, as a rule, the fits began in the leg, whereas the patient could move the leg slightly while he had an absolute paralysis of the arm. The second point was the rapid deterioration in his condition during the previous ten days, a symptom which, it was feared, might point to some more general involvement, possibly œdematous or inflammatory, and not merely to pressure from a well-localised tumour. During the four days prior to operation his condition became distinctly worse even than it was on admission. Thus on the morning of operation he was comatose, his pulse-rate was 48, and his temperature was 96·4°.

The patient having been prepared, save that the bowels could not be got to act, the operation was performed on July 5th. Taking into consideration that the fits were a little variable in their place of origin and that the history of the fits did not tally with the present condition as regards paralysis of the limbs, it was decided to investigate both arm and leg areas. He was accordingly anæsthetised, chloroform being used for the purpose. Only a small quantity was required, six drachms altogether, for an operation lasting some three hours, nearly all of it being used during the first hour. He showed a distinct tendency to stop breathing whenever he was put fully under its influence. An osteoplastic flap, of horseshoe shape and barely two inches in diameter, was raised from the left upper Rolandic area. The bone was first perforated in several places by a drill and the intervening portions were cut through by a Gigli saw; after which, periosteal elevators having been introduced as levers, the base of the bone flap was divided and the flap, consisting of bone, periosteum, and soft tissues of the scalp, was turned back, so that the dura mater was exposed. It was found, however, while this was being done that firm adhesions existed between the dura mater and the bone at the upper part of the flap. The dura mater thus exposed was found to be very tense, so much so that palpation of the underlying structures was practically impossible and pulsation of the brain was absent. It was more resistant toward the vertex, and this portion was covered with the small adhesions which had been divided on removal of the skull.

A crucial incision was next made very carefully over the most prominent portion of the dura mater and immediately the brain matter bulged into the wound. At the same time it was reported that the pulse-rate, which up to now had been about 50, had risen to 60. A little later it rose to 90, then to 110, and finally to 144, changing in character from being hard and full to being very soft and feeble. The brain matter was encouraged to bulge, in the hope that, cerebral pulsation having been now restored, the tumour might be extruded without further manipulation. This, however, did not occur. The brain substance which protruded was very œdematous and finally ruptured, a small quantity of disintegrated brain matter being extruded. Palpation of the actual brain substance confirmed the sensation of firmness toward the vertex and the dura mater was accordingly opened up toward the upper limit of the aperture in the bone.

While this portion of the dura mater was being incised it was observed to be closely adherent to the brain substance by large numbers of small soft adhesions. No evidence of actual tumour being found on the surface a pair of sinus forceps was very carefully inserted downwards through the cortex, slightly opened, and then withdrawn, but no tumour substance presented. The little finger was accordingly very carefully inserted along the track of the sinus forceps and at a depth of about an inch came in contact with a rather hard mass lying firmly imbedded in the brain substance. It was hoped that very slight manipulation would serve to dislodge this mass but such proved not to be the case. It was necessary to sweep the little finger carefully all round the tumour, freeing it from adhesions in all directions, before it could be dislodged. In so doing it was found to be adherent by a slight attachment to a second mass which lay more posteriorly. The attachment having been broken, the mass, which was spherical and about one inch in diameter, was gently removed. In like manner the second mass, which was larger and extended both superficially and deeply, was freed from attachments and removed. During removal it was found to be very adherent to the dura mater, and particularly to the dura mater of the longitudinal sinus, its detachment from this portion requiring the exercise of much care and patience. This second mass was ovoid in shape and measured about one and a half inches by one inch. Both masses were firm and avascular, with here and there soft areas. They were of a yellow colour. The whole tumour weighed almost five drachms. Subsequent microscopical examination showed both masses to be granulomata, probably syphilitic.

A careful examination of the surrounding parts by palpation failed to reveal any further tumour mass, and as there was practically no bleeding from the brain substance the dural incision was carefully stitched, after which the osteoplastic flap was replaced and the skin was also stitched. An aseptic absorbent dressing was then applied externally and the patient was returned to bed. After the operation he looked very pale; the pulse was fast and weak and the breathing was regular. A few hours later the bowels moved repeatedly and about the same time it was noticed that the pupils had become equal and were also responsive to light. On the same evening he began to give signs of returning sensibility, being able to answer "Yes" and "No," and that more sharply than he had done before the operation. He could also swallow with ease, could move the right leg, and, for the first time, made some attempts to move the right arm.

During the two days following the operation the patient's temperature ranged between 99° and 100°, while his pulse-rate was between 83 and 104, and the respirations numbered from 18 to 20 per minute. He now gave distinct evidence of spontaneous and even purposive movements of the right leg and, occasionally, of the right arm. While, however, he could flex the right arm he could not extend it. Slight right facial paresis still persisted and he was unable to protrude the tongue. The optic neuritis was still as intense as formerly. On July 8th (three days after the operation) it was observed that he now gave signs of attending to his comfort. He frequently arranged the blankets with his left arm and lay on his left side instead of, as formerly, on his back. He was still unable to protrude the tongue. The pulse quality had markedly improved and the bowels moved regularly. During the period from July 9th to 12th he called "Nurse" when he wished anything, as he had been told to do. He also called "Food" when he felt hungry. On the other hand, he very often misnamed articles presented to him and could not remember the names of many others, although he clearly recognised them. When, for example, he was shown a clock he said it was "six" but could not remember the word clock. When asked if it was a watch he said "No," and smiled and said "Yes, clock," when the correct word was mentioned. When asked a couple of questions in succession he frequently gave an answer to the first when he was asked the second, and sometimes he gave wrong answers to questions and wrong names to articles presented to him. He, however, looked disgusted when he gave such answers and sometimes said "No, I don't mean that." He could give his name, age, &c., correctly, if not previously plied with questions.

A note made on July 16th (11 days after the operation) stated that a marked change in the condition of the patient's intellect was now observed. He could speak sensibly and his memory had markedly improved. He remembered his time of service in South Africa, the name of his regiment, &c., and other events up to the time of his coming into the infirmary. This incident, however, and all succeeding ones he appeared to have forgotten. Being anxious for solid food, and having been told that he must get the "Chief's" permission first, he made a vigorous effort to make his wishes understood at the morning visit. He, however, objected to be questioned, telling the nurses that he knew quite well what he wanted but that he was unable to get the proper words for the answer. He asked for a book to read and was able to recognise some words after spelling them slowly over but was unable to understand the context. On the 18th he was still unable to protrude the tongue when asked to do so, although he believed that he did protrude it. He was therefore asked to put his hand up and feel whether the tongue was out or not. Having satisfied himself that the tongue was not out he immediately protruded it properly and has been able to *do so* since. He was now found to be able to extend the right arm as well as to flex it. When asked to whistle, he whistled a bugle call, and he recognised a flower when shown one. From this date improvement was steady. He became gradually brighter, answered questions at once, and asked others. He frequently volunteered information regarding his condition. His chief difficulty seemed to be in giving the name of some person or thing when asked for it. The wound was dressed for the first time 24 days after the operation and was found to be perfectly healed.

The patient was allowed to get up some seven weeks after the operation. He was now very well and bright and intelligent, although he sometimes found difficulty in expressing himself, particularly when excited. The right arm and leg being still deficient in power, as was to be expected, a course of massage was ordered. He had no fits after the operation.

Glasgow.

THE PREVENTION OF CANCER REGARDED AS A PRACTICAL QUESTION RIPE FOR SOLUTION.

By C. B. KEETLEY, F.R.C.S. Eng.,

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In The Lancet of August 18th, p. 419, Professor A. W. Mayo Robson justly calls attention to the desirability of the early recognition of what might be termed suspicious appearances suggestive of cancer of the stomach in order that an exploratory operation, and possibly a radical cure, may be made in good time. Incidentally he quotes Professor William Osler's opinion that 10 per cent. of gastric cancer cases are fatal within three months and the observations of many authorities on the frequent "grafting of cancer upon long-standing ulcer" of the stomach. I think we must all agree with Professor Robson, but I would invite your readers to go a little further. Is there much hope of the rapid cases which kill in three months being often diagnosed in time to be saved by surgery? Is there no prophylaxis of both gastric ulcer and gastric carcinoma? You allowed me to argue this question at some length in The Lancet of August 31st, 1901, p. 584, and I dealt further with it in the *Medical Press and Circular* for 1905, vol. ii., p. 1. I would also refer to the article in which Sir James Paget advanced strong reasons for the view that cancer is a parasitic disease, pointing out some of its many important resemblances to syphilis and tubercle.[1] Professor Metchnikoff, in the Harben lecture for 1906, referred to somewhat similar views to mine, saying they are held by Czerny and not denying that they may be right. I hold that the time is now as ripe and as promising for the organisation of a system for the prevention of cancer as in 1870 it was ripe for the introduction by Lister of a system for the prevention of the deadly complications of wounds. The micro-organisms which cause wound infections were not demonstrated until *after* the introduction of Listerism. What might be termed the bacteriological basis of that system was the knowledge then possessed of putrefaction; and the most deadly complications of wounds which antiseptic treatment has banished from them—e.g., tetanus and some of the worst forms of peritonitis and meningitis—are not caused by putrefaction. All depends on whether or not the *materies morbi* of cancer is or is not some living principle introduced into the stricken animal from without. If bacteriology has proved anything it has demonstrated that such principles or causes of disease cannot live long in the presence of degrees of heat which are lower fortunately than temperatures which render foods worthless.

I think the grounds for attributing cancer to some living organism to be exceedingly strong. I will not trespass on your space to repeat arguments already set forth in articles to which the references have just been given. I cannot see that histologists have effectively controverted the hypothesis of a causative micro-organism in cancer by advancing theories of the mode of multiplication of cancer cells, whether their observations and hypotheses be right or wrong. They differ so much among themselves that they cannot be entirely right. Nor does the fact that cancerous mice fail to infect healthy mice who are merely kept with them prove anything except a failure to appraise clinical observations at their true value, in those who lay stress on it. In the case of those tumour-producing diseases with which cancer has clinically the nearest relations—e.g., syphilis, tubercle, and leprosy—it is striking what long periods of intimate cohabitation can pass without causing infection. Reflect on the following case. A woman, aged 27 years, was for 21 years a sufferer from lupus of one leg so severe that she came under me for amputation (from my colleague, Dr. P. S. Abraham). The other leg was quite healthy. Now those two legs had been bedfellows and had otherwise lived together more intimately than any pair of mice and men all the time and presumably the "constitution" of the two legs was at least as identical as that of two mice. Negative observations in this connexion have small value but the positive observations which the clinician makes from time to time, even if rarely, are of great significance. For instance, I saw a small epithelioma of the tongue develop opposite a larger and older one of the lower jaw. And epitheliomata of the leg form nowhere except on the site of some long-standing, neglected ulcer ripe, as it were, for infection from without.

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[1] The Lancet, Nov. 19th, 1887, p. 999.

Nor can I admit for a moment that the Cancer Commission has disposed of the question by saying *ex cathedrâ* that differences of food have nothing to do with the cause of cancer. This protests too much. Has food nothing to do with the causation of chronic gastritis or with dilated stomach? What about alcohol? What about excessive beer-drinking? Does not chronic gastritis predispose to cancer and who are the classes and nationalities of people who suffer most from cancer of the stomach? Do old gastric ulcers and cicatrices not predispose to that malady? These questions are not to be disposed of by statements that teetotal Hindoos as well as lager-beer-drinking Germans are liable to gastric carcinoma, statements made without regard to comparative liability. I have only touched on arguments and contentions which have appeared recently. As I promised, I will not here go at length into the question, but will straightway lay down the following rules for the prevention of cancer. These rules would tend to protect from other diseases and so much the better. Listerism, which was meant to protect wounds from putrefaction and suppuration, incidentally proved effective against tetanus and various grave specific infections; also, so much the better.

1. Sterilise the food. The majority of cancers attack the alimentary canal and especially the parts where food and fæces tarry—e.g., the lips, the margins and under surface of the tongue, the tonsils, the gullet behind the larynx, and again where it is crossed by a bronchus, the lesser curvature of the stomach near to the pylorus, the pylorus itself, the ileo-cæcal region, the sigmoid flexure, the rectum, any part of the alimentary canal which has been the seat of chronic ulceration or of cicatricial contraction, and the lower portion of the large bowel in those curious cases of multiple polypi which tend to delay the passage of solid fæces, just as hillocks and trees check the downward course of snow on a hill side. Cancers of the biliary and pancreatic passages as well as those of the uterus are explicable through the observations of Bond of Leicester on ascending currents. Besides, the hypothesis of direct infection does not negative the possibility of infection from the blood.

2. The sufficient and regular toilet and protection of the nipples and of the genitalia. It is significant that these organs, each the outwork of a region frequently attacked by cancer, are specially often polluted by stale secretions and discharges and are more frequently handled by their owners than any other part of the person usually covered by clothing. They should be washed regularly and well, thoroughly dried and clothed with soft, unirritating material which should itself be clean. During lactation especial attention should be given to cleanliness and dryness of the nipple and to cleanliness of the infant's mouth.

3. Due care of the mouth and teeth.

4. The dressings of discharging malignant ulcerations should be destroyed carefully and not allowed to pollute either the fingers or the underlinen. The carelessness, not only of the sufferers but also of many medical men and nurses about this point is amazing.

5. Non-malignant sores and tumours should be cured and especially not allowed to drift on if chronic. Instances in which old scars and chronic ulcers have become the seat of cancer are well known to be innumerable.

6. As a matter of course, cancerous and doubtful tumours and ulcers should be excised promptly. Early removal of a cancer performed in a correct and thorough manner not only gives the patient an excellent prospect of complete cure but also removes a possible focus from which other people may acquire cancer.

7. Abstinence should be practised from alcohol, tobacco, and from foods which leave waste products, of which the kidneys, the bowels, and the skin cannot easily and thoroughly get rid and which thereby provoke and sustain the chronic inflammations and ulcers which so often pave the way for cancer. This rule forbids, among many other dietary abuses, that excess of meat eating to which the late Sir Mitchell Banks gave a place in the etiology of cancer. Its observance would also have protected many alcoholics and smokers from cancer of the tongue, throat, and stomach.

8. Physical familiarity should be avoided, except with those who are nearest and dearest to us. We get the majority of our diseases either directly or indirectly from one another and the more exclusive our intercourse, whether innocent or otherwise, the safer we are. Even those who will deny that this is true of cancer may acknowledge that it applies to some of those chronic diseases which prepare the ground for cancer. I believe that most rules for the preservation of health tend to the promotion of morality, but this rule has that tendency in a special manner.

9. Much thought should be given, especially by mistresses and housekeepers, to the *service* as well as to the cooking of food, with a view to disease prevention. The way to teach cooks and kitchenmaids with this object is not so much by talking to them as by (1) seeing that they are provided with all reasonable facilities for keeping their persons clean and their utensils aseptic, and (2) regularly observing them at their work in order to see whether they have contracted aseptic habits. Any intelligent servant can be made to understand that her own well-being, and even her own good looks, often the more important consideration to her, depend upon her attention to the hygiene of the kitchen and scullery. A copious and properly placed supply of hot water is the first essential. Next come sufficient clean cloths, towels, table-room, soap, soda, and a good light. Uncooked food, such as salads, if eaten at all should be carefully inspected by the mistress and the detection of dirt on them regarded as the proof of negligence almost criminal. Bread loaves from the baker's should be sterilised in the oven. Bakers' boys are not exempt from syphilis and other affections which may pave the way for cancer and sometimes the loaves are upset in the street. When a servant is herself ill the cause should be ascertained with the help of a careful medical man. It is worth a mistress's while, in her own interests, to take some pains to keep her servants well and to have them quickly cured of their illnesses. It is a not uncommon thing to meet with cooks suffering from cancer itself and even from ulcerating and discharging cancer. Tubercle is, of course, quite common in every class of domestic servant. When the service of the house has been at last put into due order it should be the rule as much as possible to take the meals there and not to go needlessly to clubs and public buildings to eat, still less to drink. The rolling stone gathers no moss. What it would gather, if it were a vital organism, would be disease.

Some of the above recommendations may be regarded as counsels of perfection. They none the less constitute a good standard at which to aim. Whenever a medical man gives advice involving a little trouble to persons whose habits run counter to it, some who need the advice most show their gratitude by deriding it. One can imagine the hog saying to the lion: "My good friend, why do you spend so much time cleaning your fur and actually sit up half the night to get fresh meat for supper? What! '*Trichina spiralis*'! Pooh! I don't believe there is such a thing. It was invented by one of the gentlemen who write leaderettes for the medical journals."

Is there any article of food which is particularly open to suspicion? Let us bear in mind that nearly all primary carcinomata attack either the alimentary canal or the skin or passages which open into the skin or the alimentary canal. Now, is there any article of food which comes much into contact with the skin? Milk is analogous in origin to the secretions of skin glands, to sweat and to sebaceous material. The breasts are skin glands. The skin therefore comes into intimate relationship with substances similar in nature to milk and the breast comes into contact with milk itself. Now the breast is that part of the outside of the body which is most prone to carcinoma. Further, other external parts which suffer from a well-marked liability to carcinoma—viz., the vulvæ, the penis, and the nose—are remarkable for their copious supply of cutaneous glandular secretion. From these considerations I think special attention should be paid to the sterilisation of milk and its products, cheese and butter. Incidentally, this would assist in the prophylaxis of tuberculosis. And further, the vulvæ and the glans penis, as well as the prepuce, should be kept scrupulously clean and free from eczema, herpes, and ulcerations of every kind.

Grosvenor-street, W.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF ACUTE YELLOW ATROPHY OF THE LIVER.

(Under the care of Dr. DE HAVILLAND HALL.)

FOR the notes of this case we are indebted to Dr. Cavendish Fletcher, house physician.

The patient, who was a man, aged 21 years, was admitted to the Westminster Hospital on August 31st last. The history which he gave was to the effect that his illness commenced on August 18th, when he vomited two hours after breakfast and all that day he felt "bilious." Three days later he noticed that his skin had become yellow and this colour gradually deepened up to the time of his admission to the hospital. He continued to vomit two or three times a day after food and he said that he felt increasingly weak and lethargic. His bowels were regular daily. He stated that six months previously he had contracted syphilis, for which he had been treated by a medical practitioner up to the time of his admission to hospital. He had had no other previous serious illness.

On admission he was found to be a well-nourished young man of a somewhat lethargic temperament. The skin, conjunctivæ, and mucous membrane of the mouth were deeply jaundiced, the colour being a bright yellow. His mouth was very foul, there were two carious teeth, and the tongue was coated with a thick white fur. On the lower abdomen and inner side of the thighs was a rash consisting of round patches of a coppery-coloured stain, not raised and not fading on pressure. These were considered to be the remains of his syphilitic rash but there was no definite scar on the penis. The abdomen was full, rounded, and quite soft and there was no tenderness anywhere. The liver dulness was normal. The heart and lungs showed no abnormal physical signs. The patient complained of no pain. The temperature was normal; the pulse was 56 per minute, full in volume, but low in tension. The urine was dark greenish-brown in colour and had a specific gravity of 1012; it was acid and contained no albumin or sugar but bile reactions were well marked.

The case was considered to be one of catarrhal jaundice and the patient was put on a liquid diet and given five grains of calomel followed by a saline purge on the following morning. His bowels acted next day and the motions were watery and of a light clay colour. On Sept. 1st, 2nd, and 3rd he remained in the same condition and vomited two or three times a day after food. On the 4th a marked change came over the patient. He became very drowsy but could be roused to take food. The vomiting became more frequent but consisted only of curdled milk and a frothy watery material. The temperature fell to 95° F. in the early morning and remained at that level. The pulse was still very infrequent and the liver dulness was still normal. As his bowels were confined he was given three grains of calomel and a saline aperient three times a day. On the next day the patient was in the same torpid condition, his temperature was still subnormal, and the pulse was slow. The purgatives had no effect in opening the bowels. On the 6th his condition became very much worse. His colour deepened to a dark bronze, he lay semi-comatose, and vomited almost incessantly. The vomit now contained blood, at first red but later of a dark coffee colour. The liver dulness was now definitely diminished, the comparative dulness starting at the sixth rib and the absolute dulness at the seventh rib in the mid-clavicular line and extending down only to the lower border of the eighth rib in that line. The urine was examined for leucin and tyrosin. Leucin was found in quantity but no definite tyrosin crystals could be demonstrated, although there were some small clusters of very tiny, needle-shaped crystals resembling tyrosin except in size. There were numerous hyaline and granular casts and some Charcot-Leyden crystals. The urea excretion was apparently not diminished. A blood count showed nothing abnormal. Later in the day the patient became delirious. He understood nothing that was said to him, moved his limbs about in an aimless fashion, and made frequent attempts to get out of bed. His temperature remained persistently subnormal but the pulse gradually rose in frequency from 56 to 116 per minute and declined in volume. The bowels were obstinately confined, a simple enema and a turpentine enema being returned without result. The diagnosis of acute yellow atrophy of the liver was now considered to be established. On Sept. 7th the liver dulness was still further diminished and was now represented merely by a narrow band about an inch in width between the seventh and eighth ribs. There was no ascites. On this day a few scattered hæmorrhagic spots appeared on the chest. The delirium passed off and the patient lay almost comatose. The bowels remained unopened in spite of an enema containing two ounces of castor oil administered about 18 inches up the bowel and two minims of croton oil given by the mouth. The pulse rose in frequency steadily to 130. His temperature now began to rise rapidly and from being 96° in the morning it reached 103·4° at midnight. The patient's condition passed into deep coma with stertorous breathing and finally Cheyne-Stokes respiration, and he died at 2.10 A.M. on Sept. 8th.

Necropsy.—A post-mortem examination was made under the direction of Dr. R. G. Hebb ten hours after the patient's death. All the tissues were deeply jaundiced, with the exception of the brain which was normal in colour. There were numerous hæmorrhagic extravasations in all the organs, most noticeably under the endocardium and pericardium and in the lungs and peritoneum. The colon was loaded with scybala. The liver was small, weighing only 31 ounces and measuring seven inches from side to side across the upper surface. The capsule was wrinkled in places. The left lobe and adjacent part of the right lobe were dark red, firm, and fleshy. The greater part of the right lobe was bright yellow in colour with irregular areas of a dark red colour scattered through it; it was much less firm in consistence than the left lobe. The gall-bladder was empty; the bile and pancreatic ducts were quite pervious. The microscopic appearances of the two lobes differed. The sections of the yellow portion of the right lobe showed all stages of degeneration; in them there could be distinguished apparently normal liver cells with nuclei, cells which had lost their nuclei and were undergoing granular and fatty degeneration, and finally parts where the cells had become completely disintegrated and broken up into granular and fatty débris. The sections of the red left lobe, however, showed no trace of normal liver tissue save the fibrous framework which stood out prominently owing to the disappearance of the cells. The shrunken lobular structure could be seen in this connective-tissue framework but the interstices were everywhere filled, not with cells, but with a granular-looking degenerated material which took the stain very badly. It appeared obvious from the sections that the yellow right lobe represented the earlier stage of the destructive process, whilst the left lobe, though looking much more normal to the naked eye, really represented the final stage of the disease.

Remarks by Dr. FLETCHER.—This case, in which the clinical diagnosis was confirmed by a necropsy, differed only very slightly from the "presumed case of acute yellow atrophy of the liver" published in THE LANCET of Sept. 8th, p. 651. The main points of difference were the obstinate constipation, the intractable vomiting, and the subnormal temperature which were present in the case now described. The connexion with syphilis is interesting, although the paucity of data, of course, makes it impossible to class the two diseases as cause and effect. The great rarity of the disease is sufficiently demonstrated by the following figures. The total number of post-mortem examinations performed at Westminster Hospital during the 19½ years from 1887 up to the present date inclusive is 3928, and only seven of these (including the above case) were cases of acute yellow atrophy of the liver. Of these seven cases four were in males and three were in females. Two of the male cases were infants, one aged one year and five months and the other two years and two months.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Annual Meeting.—Presidential Address.—Actinomycosis of the Vermiform Appendix.

THE 134th annual meeting of this society was held on Oct. 8th, Sir LAUDER BRUNTON, the retiring President, being in the chair.

The Treasurer's report and balance-sheet and the Librarian's report were duly presented and adopted; votes of thanks to the retiring officers were moved and adopted; and the PRESIDENT made feeling reference to the loss which the society had sustained in the death of Mr. David Goodsall who had for many years filled the office of treasurer to the society.

The first ordinary meeting was then held and the incoming President, Mr. C. A. BALLANCE, took the chair and delivered his opening address on "Then and Now in Surgery" which will be published in a future issue.

Mr. T. H. KELLOCK read a paper on Actinomycosis of the Vermiform Appendix. He first pointed out how much more frequently actinomycosis, or streptothricosis as the affection should preferably be termed, was recognised since more modern methods of examination had been employed. The affection was formerly believed to attack the jaws, the liver, and the lungs almost exclusively in persons whose lives were spent in the country; it was now often recognised in other parts of the body or in town dwellers. The star or ray formation was not always present, and its absence must frequently have led to a negative diagnosis when the affection might have been recognised by proper staining. As the fungus of streptothrix generally entered the body by the alimentary or respiratory tract and had a great disposition to insinuate itself along the ducts of glands opening into these, it was easy to understand that the vermiform appendix should fairly frequently be attacked when the organism had travelled along the alimentary canal as far as the cæcum. From the number of reported cases actinomycosis of the vermiform appendix would appear to be a not very uncommon form of disease of that organ. An investigation of the records at the Middlesex Hospital showed that during the last three years seven cases had been under treatment in which the presence of a streptothrix had been demonstrated. The notes of two cases were read in which septic infection had been superadded to the streptothrix, in both of which portal pyæmia and streptothrix abscesses in the liver had been found post-mortem and in one case a similar affection in the pancreas and pleura was revealed. In three cases the disease had been limited to the neighbourhood of the appendix. Two cases were associated with an abscess presenting through the abdominal wall at some distance from the appendix region. A streptothrix infection of the vermiform appendix might thus be met with under two forms—the one simple, the other associated with a septic infection. In the first the condition was difficult to distinguish from an ordinary case of appendicitis. In the second form the patients were often extremely ill and rigors and septic pylephlebitis (both rarely seen in cases of ordinary suppuration about the appendix) seemed to be relatively common. These two forms of the affection were similar to what was sometimes seen when the disease occurred in other parts of the body, such as the cheek. Attention was called to the tendency of the abscesses to burrow and point at a distance from the original seat of the disease. The question was raised as to whether the so-called secondary streptothrix affections of the liver were really conveyed thither by the blood-stream or whether they were not really an independent infection from the alimentary canal; and in one of the reported cases the discovery post mortem of a streptothrix abscess in the head of the pancreas was quoted in favour of the latter view. The points that would be likely to be of help in arriving at a diagnosis of actinomycosis of the appendix in non-suppurating cases would be a long history of slight indefinite pain in the region of the appendix, a relatively large amount of induration, and, if operation were performed, the small quantity of broken-down material found. In suppurating cases the occurrence of rigors early and the pointing of abscesses at a distance from the appendix region were in favour of actinomycosis. The treatment should be both constitutional and local. In simple cases the best results followed removal of the appendix and as much of the affected surrounding tissue as possible, combined with treatment by large doses of iodide of potassium or arsenic. Suppurating cases were much more serious and little benefit was likely to be derived from the use of drugs until the septic condition had been dealt with by ordinary surgical measures. It was pointed out how exactly this coincided with what was experienced in dealing with the affection as it occurred in other parts of the body.—The PRESIDENT remarked on the importance of examining all appendices pathologically after removal.—Mr. H. J. WARING observed that it was almost impossible to decide whether actinomycosis had commenced in the appendix or in the adjacent parts of the cæcum. The detection of the characteristic fungus was attended with some difficulty. Clinically, it was also difficult to diagnose the condition with certainty during life, unless there was a sinus with a discharge which could be examined. He discussed the mode of infection of the liver. For the cure of these cases both surgical measures and very large doses of iodide were necessary.—Mr. EDRED M. CORNER discussed the mode of origin of streptothrix organisms in the cæcum and the long duration of some of these cases.—Mr. C. S. WALLACE referred to the case of a woman, aged 22 years, who suffered from the malady and was admitted for intestinal obstruction. The disease subsequently recurred and spread to the ovaries. Prior to microscopical examination the case was regarded as tuberculosis of the peritoneum.—Mr. KELLOCK replied.

OBSTETRICAL SOCIETY OF LONDON.

Intra-ligamentous Tumour of the Uterus.—Primary Tuberculous Disease of the Cervix Uteri.—Exhibition of Specimens.

A MEETING of this society was held on Oct. 3rd, Dr. AMAND ROUTH, Vice-President, being in the chair.

Dr. THOMAS W. EDEN and Mr. F. LIONEL PROVIS recorded a case of Intra-ligamentous Fibro-cystic Tumour of the Uterus, weighing 30 pounds, removed by enucleation and subtotal hysterectomy. The patient, who was 55 years of age and unmarried, in January, 1906, attended the Chelsea Hospital for Women, complaining of abdominal swelling and a mucoid discharge from the rectum. The menopause occurred at the age of 48 years. For 11 months she had suffered from an ulcer on the left leg. The abdominal swelling was first observed in 1898 and had increased rapidly of late. External examination revealed a large tumour of elastic consistency reaching up nearly to the xiphoid cartilage and having a smooth surface with a distinct thrill. Per vaginam the cervix was found displaced upwards under the symphysis pubis and a firm swelling rounded in outline and apparently continuous with the abdominal tumour was felt in the left fornix and pouch of Douglas. The position of the uterus could not be made out. A diagnosis of multilocular ovarian cyst with a semi-solid portion in the pouch of Douglas was made. Cœliotomy was performed on Feb. 14th, when the tumour was found to be a fibro-myoma of the uterus spreading out into the left broad ligament and extensively raising the peritoneum from the left lateral pelvic wall and the abdominal parietes. The tumour was enucleated and the uterus removed by subtotal hysterectomy. Up to the ninth day the patient made excellent progress, when she complained of pain in the chest, her temperature rose to 100·4° F., her pulse-rate to 116, and her respirations to 33. A pericardial friction rub was audible at the apex of the heart. In two days the rub had disappeared and the patient continued to make most satisfactory progress. On the twenty-sixth day after the operation she went to a convalescent home. On the next day she became very ill with vomiting and a temperature of 103°. In 48 hours the vomiting ceased but she remained very weak and was confined to bed with a morning temperature of 102° which fell to nearly normal in the evenings. In this condition she remained for a week, when she had several shivering attacks, in one of which her temperature was 107°; a loud systolic murmur also became audible at the apex, although the heart sounds were previously clear. On March 19th she suddenly became unconscious and developed left hemiplegia. On the following day she died. No necropsy could be made. The immediate cause of her death was apparently cerebral hæmorrhage or embolism, but it was difficult to connect it with the operation. Possibly the ulcer on the left leg might have been the source of an ulcerative endocarditis with secondary cerebral embolism. The tumour weighed 30 pounds, and was one of the largest of its kind on record. It was attached to the left lower lateral border of the uterus by a pedicle one inch thick. The uterus measured two and a half inches. The cut surface of the tumour showed a large cystic and degenerating fibromyoma. Microscopical examination confirmed the naked-eye appearances. The extensive cystic degeneration probably accounted for the rapid increase in the growth noticed by the patient shortly before the operation. As the tumour was attached by a distinct pedicle to the uterus it was regarded as uterine in origin, growing out in the left broad ligament

Mr. ERIC E. YOUNG read a paper on Primary Tuberculous Disease of the Cervix Uteri. The patient was a married woman, aged 26 years, her husband being alive. She was found on examination to be healthy and had had three pregnancies, all the three children being healthy, the last having been born two and a half years ago. The patient had been always healthy. The catamenia were regular up to six months ago; since then the periods had been of longer duration. For five weeks there had been a thick yellow inoffensive discharge from the vagina and there was constant aching pain in the lower abdomen and the sacral region. There had never been any bleeding from the vagina. There was no family history of tuberculosis. On admission the patient was found to be thin and she was nervous and excitable. The lungs were examined on several occasions and invariably they were found to be normal. There were no tubercle bacilli demonstrated in the sputum. Slight tenderness on deep palpation was experienced in the hypogastric and left iliac regions. There was no enlargement of the inguinal lymphatic glands. The cervix was indurated and greatly enlarged; its surface was uneven and ulcerated in places, and in places it was nodular and papillary; it was not friable on examination. The uterus was freely moveable. The suspicious nature of the disease suggested vaginal hysterectomy, which was performed. When examined six months subsequently to the operation the patient was found to be quite healthy. No recurrence of the disease had taken place. Two photographs showed the appearance of the uterus after removal, and contained in the paper were a report by the Clinical Research Association and one by Dr. Williamson, the former stating that the lesion might be of tuberculous origin, and the latter expressing no hesitation in affirming the case to be one of tuberculosis of the cervix. Mr. Young then furnished the results of his inquiries into the literature upon the disease and summed up the conclusions to be deduced therefrom in the light of the history of reported cases and of the examination and treatment of the present patient. He then discussed the nature of the case now presented and the difficulties attending a differential diagnosis. The rarity of the disease, its etiology, pathology, symptoms, and treatment were briefly discussed.—Dr. ROUTH said that Mr. Young's paper would lead gynæcologists to modify their opinion as regards the relative frequency of primary tuberculosis of the Fallopian tube as compared with that disease primarily affecting the cervix uteri.—Dr. ARTHUR LEWERS said that the case recorded was in some respects similar to one which he had himself communicated to the society some years ago.—Dr. ALFRED L. GALABIN said that his experience confirmed what had been said as to the difficulty of distinguishing in some cases between tubercle of the cervix and cancer, especially when tubercle was accompanied by a sanguineous discharge.—Dr. H. RUSSELL ANDREWS and Dr. F. H. CHAMPNEYS also spoke.

Dr. CHARLES J. CULLINGWORTH exhibited a replica of the medal which had been presented to Professor S. Pozzi on the occasion of his having been president of the Seventeenth Surgical Congress held in Paris in 1904, and of his promotion to the grade of Commander of the Legion of Honour.

The following specimens were shown:—

Dr. EDEN: Tubal Pregnancy with Extensive Interstitial Salpingitis.

Dr. R D. MAXWELL: Volvulus of the Small Intestine leading to Perforation of the Gut and Abdominal Distension causing Difficult Labour.

Dr. RUSSELL ANDREWS: (1) Endothelioma of the Cervix and (2) Complete Prolapse of an Inverted Uterus.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Oct. 5th, at which Dr. J. T. Conner, the new President, after thanking the society for the honour that they had done him in electing him, delivered an address on the Present Position of Medical Science. In surveying medical literature the dominant reflection in his mind was the extraordinary accumulation of details and the absence of corresponding unification or establishment of principles—in other words, growth without development. Herbert Spencer had described knowledge of the lowest kind as ununified knowledge, science as partially unified knowledge, and philosophy as completely unified knowledge. Medicine largely consisted of ununified knowledge and therefore of knowledge of the lowest kind. Observations followed observations in endless succession and opinions followed opinions, but the establishment of principles which rose above opinions and silenced discussion made but little progress. In therapeutics this indefiniteness was bitterly felt. When they turned for guidance to the authorities, instead of being told what they should do in such and such circumstances they were told what they might do; they were given a multitude of conflicting suggestions and no definite teaching. Modern research, instead of trying to remove this indefiniteness, simply piled new drugs upon new drugs in bewildering profusion. They were all introduced with claims for remarkable virtues but very few stood the test of time. Turning from the new to the old, he took a remedy as old as civilisation—alcohol. All sorts of experiments that could possibly throw any light upon it had been performed; the clinical experience of its use was enormous; matter that would fill a library must have been written about it. Surely here they would expect definite principles and established doctrine. But they did not find them. Since the time of Todd, who gave huge doses of alcohol in all sorts of diseases, belief in its utility had been diminishing, and in recent years its use had been greatly restricted. Now some authorities even denied that it was a stimulant. Schmiedeberg and other eminent pharmacologists held that it acted on the nervous system as a paralysing agent and not as a stimulant and that it had no stimulating action on the circulation. Experiments with the sphygmochronograph on healthy men had failed to show any stimulating action. In disease, a most important series of accurate observations had been made by Dr. Cabot of Boston with the same result. In a large number of diseases, including typhoid fever, pneumonia, tuberculosis, and chronic heart disease, he gave half an ounce of whisky every four hours for 24 hours and then double this quantity for another 24 hours. He was surprised to find that no definite effects could be demonstrated on the circulation, respiration, temperature, appetite, or secretions. Personally the President had never been convinced of the utility of alcohol as a stimulant. Indeed, the whole doctrine of stimulants in general had always appeared to him unsatisfactory. They were taught that there were two classes of bodies—stimulants and sedatives—by which they could increase or diminish function respectively. But a stimulant given in a sufficiently large dose diminished the function which it at first exalted and eventually paralysed it. Similarly a sedative given in a sufficiently small dose at first stimulated the function which it afterwards diminished. Thus these bodies did not form two distinct series. He thought that the law might be enunciated, "Every stimulant is a sedative and every sedative is a stimulant." It was generally taught that when respiratory failure was threatened—e g., in bronchitis or pneumonia—respiratory stimulants, such as strychnine or atropine, might be useful and cause renewed effort of the respiratory system. He doubted this. The doctrine took no account of the reaction or stage of sedative action which followed stimulation. Further, what indication was there for stimulation at all? The cyanosed patient was breathing for his life at double or treble his normal rate. The failing respiration was stimulated to the utmost. What was wanted was not more stimulation but energy to respond to stimulation. If respiratory stimulants could not only evoke the manifestation of energy but add to the energy of the respiratory system their use would be rational. But there was no evidence that they could. As another example of the indefiniteness of medicine the pathology of gout was taken. It had been investigated by hundreds of authorities. To follow the discussion a special training in the chemistry of the subject was required. The end of it all was that no one knew anything of the pathology of gout, not even whether uric acid was a cause, concomitant, or consequence. Still any day they might be confronted by a very learned article in one of the journals on the pathology of gout, written by a gentleman who did not know. He would give nearly a whole page of bibliography in which he quoted all his predecessors, who also did not know, though they thought a great many things. They could all give as good, or as bad, reasons for what they thought. And so this futile procession went on. The workers of the day revelled in discussion; the word was blazoned large at congresses and societies without apparently any consciousness that it was a confession of impotence. If anyone was capable of establishing the truth there would be nothing to discuss. The less that was known about a subject the more could be, and usually was, said about it.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—*A meeting of this society was held on Oct. 4th,* Dr. W. C. Chaffey, the President, being in the chair.—Dr. Walter Broadbent showed a woman, aged 46 years, with Hodgkin's Disease, the glands in the neck, axillæ, and mediastinum being much enlarged, also the liver, but not the spleen. He also showed a man with Incipient General Paralysis; the pupils were large and unequal and did not react to light; the knee-jerks were absent; there were tremor *of the lips and tongue and loquacity but no delusions.*—Dr. E. F. Maynard showed a man with Cerebellar Gait, tending to fall to the *left, left facial* paresis, and weakness of the muscles supplied by the left fifth nerve. The patient had improved considerably under large doses of *potassium iodide.—Dr. D. G.* Hall showed a man with marked Cerebellar Gait, tending to fall to the right; he had also occipital headache and optic neuritis, accompanied by some vomiting. No improvement had taken place under iodides. Dr. Hall also showed a specimen of aortic aneurysm, which had *ruptured into the lung and from there into the* pleural cavity.—Mr. V. T. Greenyer showed two specimens of *Cancer of the Lung, the first undoubtedly primary,* as no other growth was found elsewhere; in the second the examination had been limited to the thorax. In both cases the most striking *symptom* had *been a cough* brought on by the taking of food or drink, which always produced vomiting. In both there had been pleurisy and also blood-stained expectoration.—Mr. G. Morgan read a paper on his last 12 cases of Intussusception, on *nine of which he had operated successfully. He* said that success depended on early diagnosis and rapid operation. If the intussusception could not be completely reduced he advocated making a temporary artificial anus, instead of immediate resection which was so fatal in the collapsed state of the child. He thought that injections of air or water were dangerous and generally useless.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—The inauguration of the twenty-fifth session of this society took place on Oct. 5th, when *the President,* Dr. Leonard P. Mark, gave a most interesting address on Art and Medicine We hope to publish an abstract of this address in a future issue. A large number of members and friends were present, including the President of the Royal College of Surgeons of England. Dr. Mark, after thanking the society for the honour which they had conferred upon him by electing him their president, said that medicine had found a place in art since the earliest dawn of civilisation and medical details had had to be represented in painting and sculpture just as well as details connected with other sciences or with sport, navigation, and the art of war. He then proceeded with his address which was illustrated by lantern slides.

FRENCH MEDICAL COMMISSION.—M. Clémenceau, the French Minister of the Interior, has commissioned Dr. Darier to report upon the arrangements in German universities for instruction in ophthalmology. He has also intrusted Dr. Platon of Marseilles with a similar mission concerning instruction in gynæcology.

Reviews and Notices of Books.

A Manual of Midwifery. BY THOMAS WATTS EDEN, M.D., C.M. Edin., F.R.C.P. Lond., Assistant Obstetric Physician and Lecturer on Practical Midwifery at Charing Cross Hospital. With 26 plates and 233 illustrations in the text. London: J. and A. Churchill. 1906. Pp. 578. Price 10*s.* 6*d.* net.

IN writing this book Dr. Eden has attempted to set forth a concise account of the present position of the theory and practice of midwifery by dealing with every question briefly and, so far as possible, from a practical point of view. Part I. is concerned with normal pregnancy. It contains a most admirable description of the implantation of the ovum in the uterus based upon the most recent researches on the subject. The differences between the development of the amnion in man and in the chick are clearly described and the difficult question of the part played by the ventral stalk in the human ovum is explained. In the chapter on the *Anatomy of the Gravid Uterus good* use is *made of the* knowledge obtained by a study of frozen sections.

In Part II., dealing with abnormal pregnancy, are discussed, first, the *disorders* of pregnancy and, secondly, the disorders associated with pregnancy. The author adopts the toxæmic theory of the origin of both eclampsia and of the pernicious vomiting of pregnancy, pointing *out, however, that in view of our entire ignorance* of the nature of the toxic bodies involved in the causation of these two diseases our knowledge is not likely to increase very fast, as *until these bodies have been isolated* further information will be difficult to obtain. The section dealing with the Pathology of Blood Moles and Hydatidiform Moles is especially good. The description of the development of the intra-uterine blood mole is based upon the researches of Couvelaire in the case of tubal moles. In discussing the clinical features of the hydatidiform mole Dr. Eden is perhaps rather too dogmatic in some of his statements. For example, he says that the uterus is not tender in this condition and that the fœtal heart sounds are never heard. *Neither of these statements* is strictly accurate. Indeed, as the author points out, a hydatidiform mole may be met with in a case of twins, in which case the fœtal heart is not uncommonly heard. *Nor is it entirely* unknown for a partial degeneration *of the chorion to be associated* with a living fœtus. In the section on Extra-uterine Gestation the statement of *Bland-Sutton is traversed* that the formation of a tubal mole is due to blood *extravasated from the circulation* of the embryo. There can be no question that this view is an erroneous one and it has been disproved by the observations of several writers on this subject. The chapter *on* Abortion contains a clear account of the anatomy of this condition and is illustrated by some good drawings.

Part III. deals with normal labour, including its anatomy, physiology, mechanism, and *management. The description* of the mechanism of labour we can especially commend; it should be intelligible to the dullest student.

In Part IV. the various conditions comprising abnormal labour are considered. In the treatment of unreduced positions of the *occiput* and face the *method of introducing* the hand into the vagina and rotating the head whilst the trunk *is rotated* by abdominal manipulations is recommended. *We are glad to see* that Dr. Eden *does not* advise attempts being made to convert a face presentation into a vertex by flexing the head *before rupture of the* membranes. *In discussing the treatment of cases of* contracted pelves the author remarks that it is one of the conventions of obstetric *teaching* that labour in flat *pelves should* be terminated by version rather than by the use of forceps. He quotes statistics to show that this teaching is not practically sound. Since the introduction of the modern forms of axis-traction forceps many teachers of midwifery, however, have abandoned this teaching, and it is commonly taught at the present day that the use of these forceps is preferable to the performance of version in such cases. In the section on the treatment of post partum hæmorrhage we think that the author has scarcely laid enough emphasis on the great value of a hot douche in arresting the hæmorrhage. We are told that unless a trained nurse is present who can prepare the douche it should not be used. We fancy that many practitioners have saved the life of a patient suffering from post-partum hæmorrhage by the use of a hot douche without the assistance of a trained nurse.

In Part V., on the puerperium, there is an exceedingly good account of the etiology and pathology of puerperal fever. On p. 372, in the section on vaginal douching, we find the curious statement that a solution of iodine of the strength of one drachm of the tincture to one pint of water is devoid of antiseptic properties. To those obstetricians who within quite recent years were accustomed to use a solution of this strength or of the strength of two drachms to the pint for vaginal and intra-uterine douching, and even for the sterilisation of their hands, this assertion will be a surprising one. In reality, iodine is a very powerful germicide. It has been shown that in the strength of one part of iodine in 160,000 parts of water it will kill the bacillus typhosus and the vibrio choleræ, while a solution of the strength of one part of iodine in 16,000 parts of water will kill the staphylococcus pyogenes in one minute. Tablets, indeed, are in use for sterilising water for drinking purposes which depend for their action on the liberation of iodine and which were used with good results by the recent mission to Thibet. A solution composed of one drachm of the tincture to one pint of water contains one part of iodine in every 6400 parts of water and is therefore well within the strength which has been shown to be bactericidal to the staphylococcus pyogenes.

The last two portions of the book are concerned with the newly born child and with a description of the various obstetric operations.

We have nothing but praise for this work; the author has succeeded admirably in his task and we can cordially recommend it to students and practitioners as a most excellent text-book. The illustrations, on the whole, are good, although some of those in the text cannot be commended from the artistic point of view. We notice that the author has carefully recorded the source of his illustrations in those cases in which they have been taken from other works. This is a custom with which we quite agree, but at the same time we think that care should be taken to refer to the original source, not merely to the particular book from which the picture happens to have been borrowed. For instance, Fig. 26, of the gravid uterus at the end of the second month, is referred to Edgar's work on Obstetrics. On looking up the illustration in his book we find that he refers it in his turn to Schäffer, whereas actually it is taken from the classical Atlas of Braune and is of great historical importance as a drawing of one of the first frozen sections of early pregnancy, having been published so far back as 1872. In the same way Figs. 223 and 226 are again referred to Edgar; they are in reality, however, modified copies of the original illustrations in the famous and historical paper of Braxton Hicks on Combined External and Internal Version in Vol. V. of the Transactions of the Obstetrical Society of London. Several other examples of the same kind could be quoted from the book; an interesting one is Fig. 41, which, by the way, is imperfectly described, the bladder being not only distended but also ruptured, to which the name of Webster is appended. The original illustration of this very important case is to be found in a paper by Arnold Schwyzer in the *Archiv für Gynäkologie*, Band XLI., Table VIII., Fig. 1. If references to illustrations are given, then just as much care, in our opinion, should be taken to verify them as is done in the case of a quotation from another book or from an original paper.

The Diseases of the Nose and its Accessory Sinuses. By H. LAMBERT LACK, M.D. Lond., F.R.C.S. Eng., Surgeon to the Throat Department of the London Hospital, &c. London: Longmans, Green, and Co. Pp. 399. With 124 illustrations. 1906. Price 25*s.*

HIS Jacksonian Prize Essay of 1899 has been skilfully utilised by Dr. Lack as the foundation of this book, though amplified and made wider in scope. The first chapter is devoted to a study of the anatomy and physiology of the nose and its sinuses; the second to a short account of the methods employed in the examination of patients suffering from intranasal disorders; and the third chapter briefly deals with "some general considerations of treatment." In it we notice that Dr. Lack figures a round rubber syringe for the use of patients, an instrument quite impossible to keep clean or to examine. The directions respecting local anæsthesia are particularly practical and clear. Chapter IV. on Nasal Obstruction has been written with great care but at the same time emphasises the extreme specialist view—for example, is it clear that a highly vaulted palate has been proved to be due to nasal obstruction? Nor do we think that Dr. Lack's arguments are quite convincing. The remainder of the chapter, however, is very instructive. Foreign bodies in the nose occupy a short chapter (Chapter VI.). Affections of the septum and their appropriate treatment receive a rather curt dismissal with 21 pages forming Chapter VII. In Chapter VIII. acute, and in Chapters IX. and X. chronic rhinitis are well and clearly described. Chapter XI. is, however, the most interesting in the book, as Dr. Lack by his investigations fully supports those who considered Woakes correct in his description of ethmoidal disease and nasal polypus in the main though faulty in nomenclature and in some of his pathological deductions. Syphilis, tuberculosis, lupus, and rhinoscleroma take up Chapter XII. Of the remaining 12 chapters Dr. Lack devotes eight to sinus disease—none too many, excellent though they are—and one each to neuroses, tumours, the post-nasal space, and lastly an appendix.

Viewed as a whole the work deserves commendation; more especially we can praise the parts on rhinitis and sinusitis. But it is unequal in value, septal surgery and pathology deserving greater attention; moreover, the description of fibrous rhinitis would be improved by fuller mention by Dr. Lack of the views of his opponents. The book, however, will doubtless prove acceptable and useful to senior students and practitioners as a work of reference, more especially with regard to sinus disease.

Toxines and Antitoxines. By CARL OPPENHEIMER, M.D., Ph.D. Translated from the German by C. AINSWORTH MITCHELL, B.A. Oxon., F.I.C. London: Charles Griffin and Co., Limited. 1906. Pp. 274. Price 7*s.* 6*d.* net.

THE author's object in writing this work was, he tells us, "to bring together all that was known on the subject of toxines, the definition of a toxine being based on chemical grounds and on the side-chain theory, quite independently of the origin of the poison." The word toxin is thus used in the restricted sense recently given to the term, by which it is applied only to those poisonous substances which have the property of giving rise to antitoxins in the animal economy. Whether this restriction of a term already in use was legitimate or commendable is at least open to question but the usage appears to be gaining acceptance. The book accordingly deals with certain bacterial poisons—namely, those of diphtheria and tetanus, of botulism and pyocyanic infection, with some hæmolysins formed by bacteria, with the vegetable toxins, ricin, abrin, &c., and with some animal poisons such as snake-venom and spider-poison. The poisonous principles which are encountered in connexion with the bacteria of typhoid fever, cholera, plague, and pneumonia are also discussed, though the formation of true toxins, in the sense above indicated, is not certainly demonstrated in the case of these organisms. In the opening chapter a full account is given of the work which has been done by Ehrlich and others in investigating the nature and relations of toxins and antitoxins, and due consideration is paid to the work of Arrhenius and Madsen who endeavour to apply recognised chemical principles to explain many of these phenomena. The book affords a most useful summary and impartial discussion of a vast amount of scattered original work. An index of authors referred to occupies nearly 18 pages and bears eloquent witness to the thoroughness of Dr. Oppenheimer's literary investigations. The translation, too, is well done; it is only here and there that such a phrase as "the formerly so inscrutable problem" reminds us of the German original. A few errors, such as "intercerebral" for "intracerebral" occur and it seems a pity that in a translation for English-speaking people typhoid fever should throughout be termed typhus in accordance with German usage. But the blemishes are trifling and the merits of the volume manifold.

LIBRARY TABLE.

British Rainfall, 1905: On the Distribution of Rain in Space and Time over the British Isles during the Year 1905. By HUGH ROBERT MILL. With Maps and Illustrations. London: Edward Stanford. 1906. Pp. 271. Price 10*s.*—This book, the forty-fifth annual volume, is issued at a somewhat later date in the year than its predecessors, "but the growing mass of data to be dealt with and the greater detail now given in the various discussions make it increasingly difficult to accelerate publication." The volume is divided into two parts. Part I. contains: (1) A Report to the Observers; (2) Original Articles, dealing with a Remarkable Publication of Rainfall Data in Germany, and with the Relation of Evaporation to other Meteorological Phenomena; (3) Tables of the Amount of Evaporation at 11 Stations, of the Duration of Rainfall at Eight Stations, and of the Complete Daily Observations of Rainfall at Ten Stations; (4) An Account of the Staff of Observers and of Changes in the Stations at Work; and (5) a Long Obituary List. It is the aim of the author to put on record the name of every observer who has died since the issue of the previous volume, with a note of the services rendered to the rainfall organisation and the addition of biographical facts of interest. Amongst the 62 names which fill the obituary list this year, 13 observers had kept observations for 30 years or more. In Part II. the conditions of 1905 are exhaustively treated as to (6) Observers' Notes on the Rainfall and Weather; (7) Heavy Falls of Rain, their Distribution over the Country and their Relation to Atmospheric Disturbances, with several Maps; (8) the Distribution of Rainfall in Time, including the Number of Rain Days classified according to Amount of Fall, Droughts, and Rain Spells; (9) the Monthly and Annual Rainfall in Relation to the Average; and (10) the General Table, giving the names of all observers or responsible authorities, particulars as to position and exposure of the rain gauges, the total annual rainfall, and the number of rain days. The author records an increase of more than 100 observers in the year and the number of stations from which returns are now published exceeds 4000. There is a useful map showing the distribution of rainfall stations and a list of places is given at or near which new rainfall observers are specially wanted. A large proportion of the observations on which the work is based has been contributed by medical men and it would be very helpful to the improvement of our knowledge of the rainfall conditions if interest could be stimulated in remote localities. As the members of our profession are so widely distributed we further recommend the subject to the notice of those who are practising in districts which are more than ten miles from the nearest rain gauge.

Sweden. Edited by the Swedish Touring Club. With 17 maps and seven plans. London: Thomas Cook and Son. 1906. Pp. lxiv.–238. Price 4*s.* net.—We welcome the appearance of the second and revised edition of this little work. The book has been prepared with a view to insure its being recognised as the standard guide to Sweden. It is edited by the Swedish Touring Club and the materials for it have been collected at the instigation and cost of the club during a series of years Not all the sights and features of interest in Sweden are mentioned here; the scope of the work has been purposely restricted to such sections and features as are calculated, by reason of facilities afforded both of communication and of accommodation, to enable the traveller from foreign parts to see without too great an expenditure of time, exertion, and trouble the main characteristics of the country, what natural beauty it possesses, what industries it supports, how its people live, their present status in civilisation, and their records of the past. This new edition has been corrected, altered, and added to, so as to include the new lines of communication that have been opened. It appears to us to be an excellent guide to a country in which a delightful holiday can be spent. The maps are very good.

Diseases of the Urethra. By P. CLENNELL FENWICK, M.B. Lond., F.R.C.S. Edin. Melbourne: James Little. 1906. Pp. 139.—Dr. Fenwick offers this volume to his medical colleagues in Australia as a fellow general practitioner who has often found it necessary to refer to several books on general surgery before he obtained required information. The object of the book is to give in a simple concrete form all the necessary information on the varieties of urethral disease which the general practitioner usually has to treat. Dr. Fenwick has certainly produced a capital little book and one which will prove helpful. All questions in connexion with urethral disease are considered and the treatment is thoroughly gone into; the prescriptions for the drugs recommended are given in full. A few pages are devoted to tumours of the testicle; we note that cysts of the cord are not mentioned. The book is illustrated with explanatory diagrams. The arrangement of the subject matter and the printing of the little book are both good.

Manual of Anatomy, Systematic and Practical, including Embryology. By A. M. BUCHANAN, M.A., M.D., C.M.Glasg., F.F.P.S. Glasg. Vol. I., Osteology; Upper Limb; Lower Limb. London: Baillière, Tindall, and Cox. 1906. Demy 8vo, pp. 596; 266 illustrations. Price 12*s.* 6*d.* net.—It is no easy task to combine systematic and practical anatomy, together with embryology, in a readable manual of moderate size. The result is bound to be uninspiriting in consequence of the compression to which the matter is subjected. Dr. Buchanan has hardly escaped the perils of his venture. Nearly half this first volume treats of osteology, the remainder being devoted to the anatomy of the limbs. As might be expected from the space given to it, the section on osteology is more exhaustive than those which follow it and, as a matter of fact, it forms the most satisfactory portion of the volume. The method of description adopted in treating the anatomy of the limbs is regional, the parts being described in the order in which they are met with on dissection. The account of the soft parts is less detailed than that of the bones. We doubt if the descriptions, although sufficiently accurate, will do more than meet the requirements of examinations where the standard is not very high. At the end of the description of the anatomy of

the upper limb is a guide to its dissection. This is not illustrated and is compressed into 12 pages of uncomfortably small type. We much question its utility in the form in which it now appears. In like manner a directory of 17 pages is provided as a guide to the dissection of the lower limb and to this the same remarks apply. The only embryology which we can find in this volume consists of the ordinary descriptions of the ossification of the various bones. The book is printed on thin paper and is well illustrated by drawings by Mr. James T. Murray of Edinburgh. A fairly free use has been made of colours to indicate muscular attachments, vessels, nerves, and the positions of various synovial sacs.

Hand-Atlas of Human Anatomy. By WERNER SPALTEHOLZ, Extraordinary Professor of Anatomy in the University of Leipsic. Edited and Translated from the fourth German edition by Professor LEWELLYS F. BARKER of the Johns Hopkins University, Baltimore. Second edition in English. London and Philadelphia: J. P. Lippincott Co. Three vols., 872 pages in all. Net price complete £2 2s.—The atlas of Professor Spalteholz deservedly occupies a prominent position among publications of this class and we are not surprised to find that a second edition of the English translation has been called for. This edition differs very little from the first which we have already commended in these columns. Some of the explanatory outline diagrams now appear in colours which render it more easy to distinguish the constituent elements. We again strongly recommend this atlas to the attention of those interested in anatomical illustration and it will prove useful to students at all stages of their career. The publishers would do well to adopt a cover less likely to be damaged by moisture and grease.

Illustrations of British Blood-Sucking Flies. With Notes by E. E. AUSTEN. Printed by order of the Trustees of the British Museum. London. 1906. 34 Plates. Pp. 74.—This volume is illustrative, as the director of the museum, Dr. Ray Lankester, informs us in the preface, of some exceedingly fine drawings by Mr. Terzi which are exhibited in the North Hall of the South Kensington Museum of Natural History. There are also on view, as further aids to the perusal of Mr. Austen's work, models of certain flies and the parasites which they convey to man and to other animals. This method of museum management is truly to popularise science; and it is to be wondered at and regretted that the director must cease from this useful work, since he has reached the first age limit which allows of his services to be dispensed with. Mr. Austen's volume is important, not only on account of its own intrinsic merit as an exposition of the subject with which it deals but also since it is representative of a new and praiseworthy departure in the form of the publications of the British Museum of Natural History inaugurated by the present director. This is duly emphasised by a different sized page and by a cloth cover of an unfamiliar hue. Mr. Austen is so well known an authority upon the diptera, or two-winged flies, that it was unnecessary to seek outside the museum for assistance in preparing this volume. It contains an account, variable in length according to the species, of a considerable number of flies found in this country which attack men or animals. Nearly all the species which are described are figured. Probably it will surprise many to learn that this country harbours no less than 74 species of flies which are blood-suckers by habit. But in view of the fact that, according to Mr. Austen, the total fly population of Great Britain amounts to 3000 different kinds, the proportion of venomous members of this large assemblage is not so large. And in ordinary life man is not a great deal troubled by them. Mr. Austen has done us a considerable service in bringing together his notes upon these insects and the book should commend itself to others besides entomologists.

The Cathedrals and Churches of the Rhine and North Germany. By T. FRANCIS BUMPUS. With 84 Illustrations and a Map. London: T. Werner Laurie. 1906. Pp. 356. Price 6s. net.—At this season, when physician and patient alike have just returned from seeking the rest which is so necessary in this high-pressure age, the author's purposely chosen track out of the beaten roads will commend itself to those who want a reposeful holiday in unfamiliar yet deeply interesting localities. The principal places dealt with are Münster, Soest, Paderborn, Hildesheim, Halberstadt, Magdeburg, Naumburg and Erfurt, and Cologne, with digressions on the churches by the way. One peculiarity will strike the reader, but not unpleasantly. The author, like Dickens, Johnson, and other eminent Englishmen, cannot get away entirely from his native land. He is constantly comparing these magnificent foreign fanes with our English cathedrals and where the latter excel in some point sturdily maintaining his preference for them. Thus, of Cologne (to which he devotes a whole chapter, full of information) he says that the fact of its being begun, continued, and ended in one particular period of pointed architecture must preclude it from competing as a poetical composition with Canterbury and York, Ely and Gloucester, and that measurements alone check him in adding Lincoln. He is, however, full of enthusiasm for the foreign minster, but *more suo* he must quote two Englishmen to share it with him—Tom Hood and Wordsworth. Elsewhere, in contrasting the obtrusiveness of some garish modern glass (hugely admired by the uncultivated) in one part of the cathedral with the quiet true art of some lovely old glass in another, he likens the former to the "poisonous hues" of Berlin wool as compared with the delicate "silks" and "crewels" of the old English samplers. Glass, organ cases, metal work, music—art, in short, in its every shape and form—are dealt with exhaustively, yet withal in a genial, gossipy manner, together with history and the scenery on his journeys and he is particularly enthusiastic and informing about the chorale singing in the German churches. The illustrations are very fine and the bibliography is very full, while the *plans de route* comprise both the familiar and the unfamiliar roads to a district which is rich in beauty and in historical associations.

The Birds of the British Islands. By CHARLES STONHAM, C.M.G., F.R.C.S. Eng., F.Z.S. With illustrations by L. M. MEDLAND. In 20 parts. London: E. Grant Richards. 1906. Parts 1 and 2. Price 7s. 6d. net each.—We have before us Parts 1 and 2 of the new book upon British birds by Mr. Charles Stonham, who with his duties of senior surgeon to the Westminster Hospital combines the knowledge of an expert ornithologist. So far we think the book is simply admirable and although in the illustrations there is no standard of comparison of the size of the bird yet in the description of every plate the average measurements of the bird are given. Mr. Medland's illustrations are most beautifully drawn, and although in our preliminary note on the book published in our issue of March 3rd we expressed our doubts as to whether he could differentiate all the varieties without the aid of colour, yet he has been remarkably successful. For instance, in Part 2, the various warblers—i.e., the birds of the sub-family Sylviinæ, many of which are very much alike—are wonderfully differentiated. Persons who study Mr. Medland's beautiful illustrations will probably be able to say with a fair amount of confidence whether a little greenish-grey bird which they see is a chiff-chaff, a willow-wren, or a wood-wren. Altogether we congratulate both Mr. Stonham and his illustrator.

THE LANCET.

LONDON: SATURDAY, OCTOBER 13, 1906.

Belfast and its Medical Officer of Health.

WITH a population of some 350,000, with enteric fever endemic, with the history of a recent outbreak of typhus fever, and with a death-rate (in 1904) of no less than 41 per 10,000 from tuberculosis, the corporation of this city, with its eyes open and with an appeal from a public association urging it to act aright still ringing in its ears, has apparently committed an error of judgment which will be *remembered* in the annals of Belfast to its lasting discredit as a corporate body. It has elected as its medical officer of health an ex-councillor who is without any public health experience and who "only got the diploma [of Public Health] on the eve of his retirement from the council in order to become a candidate." In the opinion of one of the leading Belfast papers it was the fact of the elected candidate having been a city councillor which "was the determining factor in the business." If this be so we may well ask with the Belfast journal referred to, "What was the use of advertising the vacancy and bringing candidates over from England and Scotland if, as was plainly hinted at by more than one member of the Council yesterday, the majority of the members were already pledged to the support of an intending candidate?" In fact, one of the aldermen is reported to have said at a date prior to the election, "I have been told that Dr. BAILIE has said that he has 35 members of the corporation pledged to his appointment." Our readers are aware that there was also some mistake or error of judgment in the matter of advertising the vacancy, so much so, indeed, that an effort was made to obtain re-advertisement of the post. It is also with much regret that we have to chronicle the fact that one of the medical aldermen of the corporation, Alderman Dr. KING KERR, who is chairman of the sanitary committee, was foremost in promoting the appointment of the ex-councillor medical practitioner, and this in face of the circumstance that there were several well-qualified and experienced medical officers of health as applicants for the post. It cannot, however, be said that the income of £600 which was offered was sufficient to attract many of the foremost health officers in this country, and it is an officer of this standing which the corporation of Belfast should, in our view, have sought to obtain.

But another remarkable incident in connexion with the appointment is the fact that the Alderman who proposed in the council the election of his quondam colleague promised the council that if his nominee were appointed "he could of his cordial and hearty coöperation with him in the public and the council should do likewise." The chairman of the sanitary committee, who is clearly a man of influence, notwithstanding his self-reliance seemed to foresee the possibility of some rift within the lute. The about-to-be-elected ex-councillor was therefore told in effect that "if he was a wise man he would rely very largely on the coöperation and assistance and advice of Mr. CONWAY SCOTT," as it was added that "whoever was elected medical officer would be a wise man if he was guided by Mr. CONWAY SCOTT'S advice and experience." In the municipal year book for 1906, under the heading Belfast, we read, "Executive Sanitary Officer, O. SCOTT, O.E." We suppose that this is the Mr. CONWAY SCOTT referred to and according to the chairman of the sanitary committee, "he is one of the ablest and most honest sanitary officers in the United Kingdom." This statement renders the appointment of the ex-councillor more mysterious than ever. He is to be *superintending* medical officer of health and yet he is, if he is a wise man, to do nothing without first consulting "the most honest sanitary officer in the United Kingdom." It would surely have been more to the point to have elected the honest officer to be superintending medical officer and to have placed the ex-councillor under him.

We are glad to be able to record that Councillor WALKER urged that no consideration other than that of the public well-being should weigh with any member of the corporation, and said that the officer about to be appointed had not "had one hour of practical experience in grappling with the problem of public health," and Alderman Sir OTTO JAFFÉ struck the right note when he said that since he entered public life he had made a point of acting in public affairs in the same spirit and in the same manner as he would do if acting for himself and for his own family. He regarded the work of a medical officer of health as a distinct profession—a special branch of medical science—and he thought that they would be wise in appointing someone who had had previous experience of the work. Councillor HENRY was called to order by the LORD MAYOR for protesting "against what was nothing short of a gross scandal," but Councillor WALKER was allowed to say unchallenged that "not merely had no outsider a show but from first to last the whole thing had been a farce—a burlesque." It was even suggested at the previous public meeting that if the council acted contrary to the wishes of the citizens a Royal Commission would be sought for, but it was felt by some that the public prints might afford unpleasant reading on account of the "revelations which might take place regarding insanitary dwellings and other matters." But although we think that a Royal Commission might prove of signal service it would, perhaps, be more to the point to establish with the money which such a commission would cost a "school for ethics" in Belfast at which all would-be councillors and, we are afraid we must add, aldermen should be compelled to procure a diploma before practising on the public as members of the council. But as this school may not at once exercise its influence we will hope that a regulation may be promulgated to the effect that in future no alderman or councillor shall hold a paid office under any local authority unless at least five years have elapsed since

Natality and Fecundity.

THE recent unprecedented and continuous decline in the productivity of the population, not only at home but in our colonies, has at length arrested public attention as a national calamity seriously threatening the future of our race. The cause of this decline has now become the subject of attentive study by scientific men, both here and abroad, and much space is being devoted to its discussion in the public press, lay as well as medical; and if, as we believe to be the case, the result has hitherto proved unfruitful, this is mainly because of the absence of the statistical evidence which is obviously indispensable. In these circumstances we welcome the publication of a book on "Natality and Fecundity"[1] by Dr. C. J. LEWIS and Mr. J. NORMAN LEWIS, F.I.A., of Edinburgh, which has been undertaken with the object of providing material for the discussion of the productive ability of the Scottish people. Having carefully read this book we do not hesitate to describe it as the most valuable contribution to Scottish demography that has hitherto appeared; and although it exposes the present nakedness of the land in regard to registration details the book supplies trustworthy and unique information with respect to the year 1855, of which the authorities in Scotland as well as in other parts of the United Kingdom would do well to take timely heed. As a nation we are prone to tolerate without complaint the persistence of demonstrably imperfect methods so long as they do not lead to actual disaster. For this national complacency of ours the present writers seek to substitute, in relation to the matter in hand, that wholesome degree of discontent which in other matters of public policy and in all ages of the world has proved the harbinger of true progress. The year 1855, which saw the establishment of birth registration in Scotland, was necessarily chosen for study because in that year alone was Scottish birth registration carried out in sufficient detail for statistical purposes. It will be remembered that in the year 1871 the late Dr. MATTHEWS DUNCAN published a work on "Fertility, Fecundity, and Sterility," which at that time attracted much attention in the medical profession. Dr. MATTHEWS DUNCAN accomplished, however, but a partial examination of the registers of Edinburgh and Glasgow alone and accordingly his conclusions, interesting and useful as they were, are obviously less trustworthy than those of the present writers who have dealt with the entire population of Scotland. It is to amplify the results of Dr. MATTHEWS DUNCAN that the present laborious research has been undertaken.

In the introduction we are informed that in 1855, which, as we have said, was the first year of Scottish birth registration, the registers contained the following particulars with respect to each birth: as to the child—the name, age, sex, date and place of birth; as to the father—his name, occupation, age, and birthplace, the date of his marriage, and his issue living and dead; and as to the mother—her name, age, birth-place, and the order of her children at birth. Unfortunately, it was for one year only that the births were recorded in this complete form, the schedules for 1856 being modified to such an extent as to be almost worthless for purposes of demographic study. The writers justly censure the authorities for their parsimony and want of public spirit and they affirm that "the loss sustained by the science of vital statistics in this alteration of the schedule is incalculable—so valuable would the information have been had it been extended over a series of years." It is probable that in 1855 returns of this kind were estimated in Scotland no more highly than in regions south of the Tweed, where the statistical and demographic importance of data such as these is only tardily coming to be appreciated, even at the present day. We trust that this book will further stimulate the discussion on this important subject now taking place in the learned societies both in England and elsewhere; and if the reproach levelled at the Scottish authorities—not, be it remembered, by strangers but by their own countrymen—should effect the extension to the United Kingdom of that completeness formerly and exceptionally achieved in the birth-records of its northern division we feel that the strictures alluded to will have been amply justified. The value of the present work is much enhanced by the circumstance that its authors have taken pains to define very satisfactorily certain of the terms used by them in its composition. Among these terms "fecundity" and "fertility" are often confounded or are used ambiguously. Yet they are not synonymous but denote different aspects of productive ability. In the estimation of the fertility of a population all the births produced in a given time are included. That is to say, twin and triplet births are counted as two and three respectively, and not as one birth. On the other hand, in the estimation of fecundity the birth "transactions" alone are considered, plural births having no more weight than single births. In short, the terms "fertility" and "fecundity" both refer to the ascertained fact of productivity; but whereas fertility means the *quantity* of ascertained productiveness fecundity means its *quality*.

The book before us deals with the Scottish statistics of birth, both legitimate and illegitimate, in a single year in the middle of last century, so that although the actual details of natality are highly instructive as showing the kind of information that can be derived from a competent analysis of the records, they nevertheless refer to a date too remote to be particularly interesting at the present day. Very ably have the facts been marshalled to show the fecundity as distinguished from the fertility on the one hand, and the sterility on the other, of the Scottish people in the year 1855. Their initial and subsequent fecundity, their primary and total fertility, the order of birth of the children, and their average number to each marriage, are set forth in such a way as to afford the maximum amount of instruction. To these details we cannot do more than allude at the present time, but they may profitably be studied in the book itself which undoubtedly deserves a wide circulation. There are, however, one or two points of more than ordinary importance to which particular reference must be made. The writers are fully aware that in comparing Scottish data respecting natality with those of foreign countries, and indeed of some of our own colonies, we are seriously handicapped by the circumstance that stillbirths are not registered in these islands, the United Kingdom standing practically alone in this respect among the nations of Europe. The birth registers of Scotland include only living children, most of whom would be born at the full time of pregnancy and be endued with definite viability. This detail the writers regard as important in connexion with any comparison of their figures with those of other countries in which stillbirths are registered and counted. As no information concerning abortions is available and as stillbirths have never been registered in Scotland wives who become pregnant but do not succeed in bearing a living child are in these statistics classed as sterile. They are not, however, really sterile and yet they do not add a living unit to the population. The importance of this consideration in regard to the question of fecundity and sterility will be duly appreciated by our readers. As regards the interval by which marriage precedes the birth of a first child the writers affirm that in Scotland this period is frequently curtailed and, in fact, is non-existent. The law whereby children born before marriage are "legitimated" by the subsequent marriage of their parents accounts in part for the frequency with which the birth of the first child precedes matrimony. The occurrence of numerous cases of first birth within seven months of marriage evidences the custom in certain classes of society of postponing marriage until after the achievement of pregnancy. Analysis of the details concerning 16,176 mothers of first-born children in 1855 shows that in 1·8 per cent. the birth preceded marriage and that in 21·3 per cent. the birth occurred within seven months of the marriage. An additional 15·5 per cent. of mothers had their first-born children within from seven to nine months of marriage and many of these children must have been conceived before marriage. So that, the writers conclude, it is probably within the mark to say that in one-third of the marriages (sterile marriages excepted) the bride had had a child while unmarried or was pregnant at the time of marriage. This, of course, refers to the remote past. Whether or not the same statement would be true at the present day cannot be known for the reasons already assigned.

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[1] Natality and Fecundity, by C. J. Lewis, D.Sc., M.D. Edin., and J. Norman Lewis, F.I.A. Edinburgh: Oliver and Boyd. Pp. 170. Price 7s. 6d. net.

Appendicitis and Boric Acid.

APPENDICITIS has been "discovered" only within recent years, yet we may reasonably claim to know all about this very prevalent disease except its cause. Speculations on the etiology of appendicitis have been rife. In the early days of the disease the presence of a foreign body in the appendix was accepted both by the profession and the public as a frequent cause of appendicitis and the importance of avoiding the swallowing of grape-seeds, orange-pips, cherry-stones, and other similar bodies was earnestly inculcated. We now know that many (if not most) of these "foreign bodies" were merely fæcal concretions, though they simulated very closely the pips and seeds of various fruits. True foreign bodies are rarely found in cases of appendicitis, although they certainly sometimes occur. Pins of all kinds seem to be the most frequently met with, but fish-bones, bristles, spicules of meat-bone, and small shot are occasionally seen. Yet all these are merely assisting causes; of themselves they do probably but little. There is much evidence that these foreign bodies may lodge for weeks or months in an appendix without producing any obvious effect until some other factor takes part. In one case two years elapsed between the swallowing of the pin and its appearance in an appendicitic abscess. The anatomical structure of the appendix contributes in no small degree to the likelihood of the occurrence of inflammation. A blind dependent portion of the alimentary canal is certainly liable to have stagnant contents and its limited blood-supply will still further assist in the production of inflammatory processes. More important than all these causes is the invasion of bacteria. Without microbic assistance even the foreign bodies will be capable of doing little harm and the stercoliths will prove innocuous. To the bacterial infection of the appendix the appendicitis is really to be ascribed. Yet when we have acknowledged the importance, or even the necessity, of the microbic invasion for the production of an appendicitis we have not even then accounted fully for the disease. Bacteria such as are found in an inflamed appendix or in an appendicitic abscess are nearly always present in numbers in the contents of the cæcum. There must be some cause, some reason, why the hitherto unaffected tissues are suddenly invaded by these ever-present microbes. This exciting cause in some cases is definitely trauma. A direct blow or more frequently a great exertion, as lifting a heavy weight or walking a great distance, has immediately preceded the attack of appendicitis and we are certainly justified in regarding the trauma as the true exciting cause in most, at least, of these cases. Yet many cases remain in which, even with the most careful inquiry, no history of any trauma can be obtained. In these there is evidently some other factor which will account for the sudden outburst of inflammation. This important factor is to be found, in all probability, in some acute attack of indigestion; and, indeed, in many cases a definite history of such an attack can be obtained. When we proceed to eliminate from this list those cases in which the cause of indigestion is obvious, such as some gross infringement of dietetic rules, we find a residuum is left in which no obvious cause for the indigestion can be discovered. It has recently been suggested that this unknown factor is a chemical substance, introduced into food for the purpose of preserving it and as boracic acid (or as it is better named boric acid) and other compounds of boron are used much more frequently than any other antiseptic the indigestion is attributable to boric acid and to borax.

That of recent years there has been a great increase in the frequency of appendicitis there seems to be no doubt. It is true the disease is diagnosed now much more readily than formerly, but taking this fact into consideration we may still be certain that the disease is definitely more frequently met with than it was 20 or 30 years ago. It is also certain that it is only in recent years that antiseptics, and especially boric acid, have been used systematically in articles of diet. Mr. CAMPBELL WILLIAMS seems to have been the first to suggest that the presence of boric acid in food was possibly the reason, or at least one reason, of the increase in cases of appendicitis. It has been long recognised that boric acid can interfere with digestion, and in 1903 we published an annotation drawing attention to this digestive disturbance. Mr. REGINALD HARRISON confirmed this statement by a recountal of his personal experience, for even in small doses and taken with milk or butter it had given rise to an acute attack of indigestion. So constant was the association that Mr. HARRISON was able to recognise the presence of boric acid in food by the occurrence of a sudden attack of dyspepsia. We may accept it therefore as proved that boric acid can cause indigestion with the production of much flatulence. Mr. HARRISON has written us a second article, appearing in THE LANCET of Sept. 22nd last, p. 737, in which he argues that this dyspepsia and this flatulence are extremely likely to be exciting causes of appendicitis, for the distension of the cæcum will stretch open the mouth of the appendix and so may enable fæcal matter and micro-organisms to enter it. In the annual report of the medical officer of health of the borough of Stepney similar arguments are used in favour of the assistance which boric acid may give in the production of appendicitis. It may be agreed firstly that boric acid can cause dyspepsia and secondly that a severe dyspepsia may act as an exciting cause of appendicitis. The only link needed is the proof that foods are liable to contain sufficient boric acid to set up an irritative dyspepsia. What quantity of boric acid may foods contain? The Departmental Committee appointed to inquire into the use of preservatives and colouring matters in the preservation and colouring of food issued a report in 1901, though no action has been taken by the legislature to introduce a Bill to carry out the recommendations of the Committee. It was therein suggested that the only preservatives used in butter should be boric acid which should not be used in a larger proportion than 0·5 per cent. In one case examined in Stepney there was over 1 per cent. of boric acid in butter, and if two and a half ounces of butter were eaten in the day more than 12 grains of boric acid would be taken. Dr. WILEY of the United States Board of Agriculture has come to the conclusion from experiments which he has made that eight grains a day are too much for an average man to ingest regularly. It is, however, not only in butter that we find boric acid, it is found in milk and cream, in ham, bacon, and sausages. So that the total amount of boric acid taken may be very great. In milk especially is it very common. The farmer adds some so that the milk may travel well; the wholesale dealer adds some more that it may not turn while in his possession; and the retailer contributes his portion also. In the *Times* of Sept. 7th there appeared a report of a case in which a Bradford fishmonger was charged with selling shrimps which contained 105 grains of boric acid to the pound. Whether a man is likely to eat as much as half a pound of shrimps, as was suggested by the medical officer of health, we hardly like to determine, but we can well believe that he could take sufficient boric acid to disturb his digestion.

It must be confessed that all observers are by no means unanimous in ascribing harmful effects to boric acid. A few maintain that boric acid and borax exert no harmful influence on the alimentary canal and foremost amongst these is Professor OSCAR LIEBREICH of Berlin. In 1899 he published a treatise on this subject and he made a further contribution in 1902. In these works he adduced much experimental proof that both of these drugs were harmless and he criticised the evidence brought forward against boron compounds. While allowing that some of the cases cited against these substances will not stand examination we do not think he has succeeded in disproving the statement that in many cases boric acid does give rise to disturbance of the alimentary canal. Professor W. D. HALLIBURTON, in giving evidence before the departmental committee appointed to inquire into the use of preservatives and colouring matters in the preservation and colouring of food, stated that the ideal course would be to prohibit all preservatives, and though this is perhaps Utopian the greatest care should be taken that only those preservatives are employed which are likely to do the least harm and the percentage should be strictly limited by law. At the present time many magistrates decline to convict unless the prosecution can bring forward evidence that the amount of preservative found must be injurious to health. This proof is often impossible though the probability of harm following may be very great. Without agreeing that the connexion between the increasing use of boron compounds in food and the increase in the frequency of appendicitis has been proved we may yet acknowledge that the suggestion has much to support it and deserves further examination.

Annotations.

"Ne quid nimis."

THE PREVENTION OF SMOKE IN LONDON AND IN PROVINCIAL TOWNS.

UNDER the above heading in an annotation in THE LANCET of Sept. 29th, p. 887, we drew attention to the appalling state of the air in the manufacturing district known as "the Black Country," lying between Wolverhampton and Birmingham, owing to the constant wanton discharge of black smoke from the factory chimneys which abound in that district. We asked why such a disregard for the purity of the air and for the health of the people living in the vicinity of these smoke-vomiting factories was tolerated by the State. We learn that our remarks have raised some indignant replies from those who are responsible for this abomination. Their defence is that they are exempt from the operations of the Public Health Act, the 334th section of which sets forth that "nothing in this Act shall be construed to extend to mines of different description so as to interfere with, or to obstruct, the efficient working of the same, nor to the smelting of ores and minerals, nor to the calcining, puddling, and rolling of iron and other materials, nor to the conversion of pig-iron into wrought iron, so as to obstruct or interfere with any of such processes respectively." But it is against this exempting clause that we urgently protest. Surely a remedy can be found for this evil which will not seriously interfere with trade interests. We venture to think that if it were proved that these filthy outpourings were a menace to the quality of mining products, foundry products, or any other of the products of the Black Country the nuisance would be speedily abated. The manufacturers' view seems to be that the intense pollution of the air with smoke and noisome smells must be tolerated even at the expense of the public health, because otherwise the industry and with it the labour of thousands must suffer. That is a view to which we cannot subscribe. That smoke can be prevented without putting a stop to manufacturing processes has been proved by the results obtained by manufacturers elsewhere who show some regard for the health and the well-being of their workpeople. So far as the manufacturers in the Black Country are concerned we were quite prepared to hear that our remarks had fallen upon stony places but none the less we call upon the legislature to rescue those who are obliged to live in such places from breathing every day of their lives an atmosphere made dark, filthy, and loathsome by the outpourings of factory chimneys. We do not exaggerate the picture, for we have received ample confirmation of our remarks from those who have to live amongst these evils and who witness their appalling effects on life and property. The following is an extract from a letter recently received from a correspondent living in the Black Country. He writes:—

> Your most useful article is going to be discounted and the whole matter ignored once again. But the summary of these interviews [our correspondent refers here to certain articles which appeared in the local press] with Midland manufacturers did to my mind most certainly confuse several important issues. It is to confuse our issue (1) to say that any action has been taken in the interest of the health of the community when that action would not have been taken at all if profits had been jeopardised; (2) to say in one place that steps had been taken to cleanse the air and in another to say that smoke laden air is healthy and therefore needs no cleansing; and (3) to suggest that smoky air and air laden with chemicals is healthy when modern medical science teaches with authority that the best air is pure air. I will endeavour to illustrate by a few examples what occurs here (Oldbury, one of the places mentioned in THE LANCET). With the barometric conditions favourable all cold and smooth surfaces (lamp-posts, &c.) are covered with an iridescent slime (due to the action of sulphuretted hydrogen on the paint). Constantly in walking through the streets one's eyes are bombarded with little drops of hydrochloric acid. One smells chlorine gas, bisulphide of carbon, and various ammoniacal and sulphur by-products. Houses stand right under the chemical chimneys, the paint on these houses turns blue, the nails in their roofs corrode. Frequently the copper in my room turns black in a night and the smell is extremely disgusting. The chief argument in favour of the manufacturers is the low death rate as compiled by the medical officers. Now it is a strange thing that all the medical men are strongly against the present state of things and never quote the low death-rate as a palliative. They consider that the dirty atmosphere by clogging the lungs decreases vitality and so by a cumulative process renders a man liable to the attacks of disease. It seems to me that this is certainly borne out by the few really old people we bury; by the number of people who die between 60 and 70; by the state of decrepitude into which a man speedily falls if he exceeds the age of 65. I have not put this argument into the form of a statistical table. I would do so if you like. There are plenty of people who would rejoice to see the matter carried further.

ADVERTISING AND DENTISTRY.

THE question of advertising by certain dentists is a constant source of vexation to those who have the welfare of their profession at heart. The British Dental Association has, we believe, on more than one occasion approached the General Medical Council, urging that advertising by registered dental practitioners should be considered "unprofessional conduct." The General Medical Council does not, however, appear to possess the power to prevent advertising except when the advertisement is of an objectionable character and when the individual claims a superiority over other practitioners. There is another type of advertisement which is allowed to run rampant—namely, that in which some claim is made to the invention of an instrument, the circulars containing the information being accompanied by testimonials. A circular of this character has recently been brought to our notice, having been pushed under a layman's door in Bradford. The circular is issued by Messrs. Forshaw and Ellison, dental surgeons, and is the puff of a tooth forceps designed by "Mr. Chas. F. Forshaw, D.D.S. exam." Now this advertisement sheet contains 13 testimonials, of which a dozen are given by medical men, and in nearly all cases the qualifications of the testimonial givers are printed in addition to their addresses. We cannot help feeling that some of those who gave the testimonials were unaware of the use to which they would be put and are probably ignorant of the manner in which the advertisement is circulated. It is to be hoped for the dignity of the medical profession that they will hasten to dissociate themselves from this vulgar publication. Perhaps, however, the givers of the testimonials are proud to be associated with Charles Frederick Forshaw, since we find from the biographical notice which we have received that he is D.C.L., LL.D., D.D.S., of what university or universities we are not told. It would be of interest to have this information as well as to know his qualifications for being a member of the Dublin Society, a Fellow of the Irish Antiquarian Society, a Fellow of the Royal Historical Society, and so on. From his biographical notice we find that amongst other things he is the author of numerous booklets, poems, ballads, and so forth, and that one of his pastimes is "rambling in pursuit of antiquities." Perhaps his forceps is the result of such a ramble. We refer to this eloquent notice of Mr. Forshaw because we feel sure the scientific dental world must be curious to know more of a man concerning whom "Who's Who" has so much that is inspiring to say. By the bye, if we remember rightly the details for "Who's Who" are generally obtained from a little form sent to a person to fill in himself.

A PERSONAL EXPERIENCE OF POISONING BY FUMES FROM A CHARCOAL FIRE.

A PERSONAL experience of illness by a medical man is always of interest and often of peculiar value. In an ordinary case we have to rely upon the accuracy of the patient in his description of his symptoms. But when the patient is a medical man there is the great advantage that the symptoms can be described by a trained observer. The instances in medical literature in which members of the profession have described their own cases are not numerous. In the *Edinburgh Medical Journal* for September Dr. R. A. Fleming has described a personal experience of poisoning by charcoal fumes. He was stopping at a hotel in the smoking lounge of which there was a charcoal portable stove not connected with the outer air by any pipe. He remained up correcting proofs for two and a half hours after the other guests had retired. On going upstairs he felt palpitation which he attributed to over-smoking. On awaking in the morning he had severe headache which rapidly passed off. On the following night he spent two hours in the lounge after the other guests had retired and worked as before. The windows were all closed. At first he noticed a disagreeable feeling of choking suggestive of incipient pharyngitis and cold in the head. Although this did not pass away it was followed by a sense of exhilaration. The work done was up to the usual standard. When he rose palpitation began. This increased as he climbed two flights of stairs on his way to bed. When he reached his room the palpitation was most disagreeable and was accompanied by tinnitus. The heart was beating at great speed but gradually seemed to beat more and more feebly until two or three minutes after beginning to undress when he lost consciousness and fell on his back. When he recovered his wife was bending over him and he had turned round and was endeavouring to get up. He felt a burning sensation in the face but had no feeling of sickness or of the clammy sensation which is so commonly associated with ordinary fainting. His wife's account was that he lay on his back with staring eyes, flushed cheeks, and rapid and noisy breathing for one or two minutes before regaining consciousness. With the help of some brandy he with difficulty got into bed. In bed he had repeated attacks of palpitation and very rapid heart's action, the speed and force soon diminishing. Towards the end of each attack there was an overwhelming feeling of impending death. In all there were about a dozen attacks. The other symptoms were severe frontal headache and after two or three of the attacks a feeling of nausea. He had also a feeling of "air hunger" which was not very urgent. A neighbouring practitioner was summoned. Dr. Fleming's purplish cheeks must have suggested intoxication to him, for he at once asked how much alcohol he had taken that day. The effects of the poisoning did not pass off for from 36 to 48 hours. The fumes from a badly-ventilated charcoal stove contain carbonic acid, carbonic oxide, and aqueous vapour. The percentage of carbonic acid and carbonic oxide depends on whether the charcoal burns brightly or smoulders. In this case the insidious nature of the poisoning is noteworthy. It is remarkable that a skilled medical observer was being poisoned by fumes from a charcoal stove and had no suspicion of the nature of his illness.

PRESCRIBING BY OPTICIANS.

IN another column we publish a letter from a correspondent who gives examples of serious defects of the eyes overlooked by prescribing opticians. Five such cases have occurred in his own practice within the last few months and it is well known that his experience coincides with that of other ophthalmic surgeons. It is of the utmost importance that the public should be brought to realise the grave dangers, not only to the eyes, but even to the lives, of the persons who seek advice from these self-termed "optologists." The cutting from the *Optician and Photographic Trades Review* which our correspondent incloses reveals a state of affairs which can only be described as outrageous. In the column devoted to "Queries and Our Answers" "Assistant" asks how it is possible to recognise irregular astigmatism and whether it is possible to correct this defect by optical means. In the answer irregular astigmatism is defined as the defect of refraction produced by irregularities of the cornea such as are left by keratitis or the irregularities of the lens that are the first evidence of commencing cataract. The method of its detection by the use of Placido's disc is then described. The article proceeds as follows:—

> A few years ago glass shells, which are known as contact glasses, have been introduced by Fick, for the temporary relief of irregular corneal astigmatism; they are worn in contact with the eye, and may enable some patients to work for hours at employment which they could not otherwise carry on. A contact glass is a very thin spherical shell, carefully ground, and having at its periphery a flat or rather less curved rim, by which it may be applied on the sclerotic. The curvature of the shell is that of the normal cornea—i.e., about eight mm. After instillation of cocain the glass is placed over the cornea and the space between cornea and glass is filled with an artificial serum (solution of chloride and sulphate of sodium), the refractive index of which is exactly equal to that of the cornea and aqueous fluid. In these conditions, the irregular cornea ceases to exist as a refractive surface, and is replaced by the artificial glass cornea, and as the latter is exactly spherical, the irregular astigmatism is theoretically corrected. This is a very ingenious way of correcting irregular corneal astigmatism. Unfortunately, contact glasses are rather expensive, as they must be ground especially for each case, and, moreover, they can only be worn for a short time, two or three hours at the utmost. It is necessary to instil cocain before placing the glass, and the artificial serum introduced between the shell and the irregular cornea rapidly loses its transparency. However, patients who would otherwise be unable to do anything or even to go about without danger are so enabled to possess, even if it be for a short time, a comparatively good acuity.

Such is the advice given in a trade journal to an assistant who, if he possesses the certificate of the Spectacle Makers' Company is, we believe, thereby debarred from using drugs for the estimation or correction of refraction. It shows clearly how this regulation is regarded by opticians themselves. Even worse than this ostentatious breach of faith is the gross disregard for the well-being of the patient. Contact glasses have been thoroughly tested by the experiments of Dor, Müller, and other competent observers and have been found wanting. They set up severe pain and irritation in a very short time, so that they have soon to be abandoned. As a therapeutic measure of practical utility they are completely discredited. The *Optician and Photographic Trades Review* cannot plead ignorance of these facts, for in the "Special Notice to Enquirers" which immediately follows it is stated that "all queries on sight testing and refraction work generally are dealt with by a qualified ophthalmic surgeon, whose methods are specially up to date and thoroughly in touch with the work of modern sight-testing opticians, and who is a member of the staff of the *Optician and Photographic Trades Review*." It ought not to be impossible to identify this "qualified ophthalmic surgeon."

UNCONTROLLABLE IMPULSE.

Two unusual cases in which the above plea was set up have recently come before the courts. In one a boy sounded a fire-alarm without a lawful excuse; in the other a schoolboy pulled an old wooden gate on to the railway line near Chester, because, as he said, "something tempted" him so to do. In neither case was the excuse taken as a valid defence. The plea of uncontrollable or irresistible impulse is usually heard when charges of murder are being defended, notably so in the case of infanticide just after birth. The verdict of the inquest jury, "Suicide during temporary insanity," is another common instance where this plea appears to be admitted. In less serious offences "kleptomania" affords a well-known example; this method of defence was made notorious by the celebrated case of the wife of Dr. Ramsbotham which is recorded in Serjeant Ballantine's "Experiences." "Kleptomania" is said to be associated with inebriety, in which condition the power of inhibition is in abeyance. Baron Bramwell, a particularly "common-sense" judge, used to doubt the presence of such a mental condition. He is reported as saying: "Irresistible impulse—that is, irresistible in the absence of a policeman!"

MONUMENT TO EDOARDO PORRO.

"THICK as leaves in Vallombrosa," writes an Italian contributor, "congresses have been multiplying within the last six weeks, to the bewilderment of the general public and the despair of the conscientious reporter. One of these, however, held, like many of its congeners, at Milan, must not 'pass over to the majority' without some notice of its main features—I mean the 'Congresso Ostetrico-Ginecologico Italiano.' Of little more than local interest professionally, its proceedings were accompanied—some might say relieved—by two incidents of international significance—the unveiling of a monument to Edoardo Porro and the inauguration of what many outside Italy as well as within it will regard as a more characteristic record of him than his impersonation in marble—namely, the 'Istituto Ostetrico-Ginecologico di Perfezionamento' or post-graduate school of obstetrics and gynæcology. Porro, it will be remembered,[1] died in the zenith of his fame and powers some four years and three months ago, the victim of blood poisoning contracted in an operation in his own clinique, and the sense of loss which the tragic event brought home to his compatriots found a sympathetic response in the medical schools throughout the world. In the first rank as a pioneer of laparotomy in his own department, he was specially prominent as a teacher who by his clinical demonstrations and prælections attracted pupils from every nationality. Thanks to him the Lombard capital acquired a name for obstetric and gynæcological medicine which, to her honour, she has striven to perpetuate, not only by liberal encouragement of his successors, Mangiagalli and Clivio, but by carrying out the project dear to his heart, the completion of a post-graduate obstetric clinique, of which he lived long enough to lay the foundations. At the inauguration of this institution the spokesman of the occasion, the Senator Mangiagalli, after thanking his colleagues for their celebration of his jubilee or twenty-fifth year of clinical work, dwelt feelingly and effectively on the great obstetrician who might in every sense be called the *genius loci* and having paid an eloquent tribute to his many gifts intellectual, moral, and professional, he reviewed the benefits to be derived from post-graduate study in a department so important and so complex as that of gynæcology, finally congratulating his audience on the thoroughness and at the same time the facility with which those benefits could be vouchsafed in the admirably equipped clinique just opened. That, he truly said, was the real and enduring monument to the life, the work, and the fascinating personality of Porro, whose 'animated bust'—a *chef d'œuvre* of the sculptor's art—was thereafter unveiled. And so ended the proceedings of the Twelfth Congress of Italian Obstetricians and Gynæcologists, not without coincident congratulations on that other adjunct to the Milanese school, the noble Policlinico, on which again, as to its inception and partially at least as to its completion, the name of Edoardo Porro is 'writ large.'"

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[1] THE LANCET, July 26th, 1902, p. 242.

THE WHEEL OF LIFE.

MOST of us at one time or another have experienced that curious sensation of "having been there before," a sensation which our neighbours across the channel express more concisely by the phrase "*Déjà vu*," and which was discussed at length by Dr. Pierre Janet in the *Journal de Psychologie Normale et Pathologique* of July-August, 1905. Mr. Kipling in his most recent book[1] is apparently so saturated with this belief that we ourselves as we read seem to be living in Roman Britain, Norman and Angevin England, the times of Sebastian Cabot and Henry VIII. Happy are the children, both young and old, among us who have the opportunity of reading history under such a guise as that in which Mr. Kipling presents it to them. What we envy so about Mr. Kipling is his wonderful faculty of putting down his imaginations on paper and conveying them to the reader. Many of us can see with the innermost eye, but how few of us can translate our visions into plain print, or colour, or sound? A writer, a painter, and a musician have this much-to-be-envied faculty, and some of Mr. Kipling's visions are worthy to rank with those of Turner or those of Bach. All the stories in the book are good, but we think on the whole that we most like the ones dealing with Parnesius the Centurion and the wonderful account of the flitting of the "Pharisees" after "Queen Bess's father he come in with his Reformatories." Interspersed among the stories are songs which sing themselves. Take, for instance, the "Three-part song," the Children's Song, which closes the book, the magnificent song to Mithras, and the one which is nameless but commences—

> Cities and Thrones and Powers,
>   Stand in Time's eye,
> Almost as long as flowers,
>   Which daily die;
> But, as new buds put forth,
>   To glad new men,
> Out of the spent and unconsidered Earth,
>   The Cities rise again.

Somehow this reminds us of those wonderful stanzas of Prudentius, in the hymn which is one of the few grains of wheat among his masses of chaff, describing the great procession of the cities at the last day bringing their saints and martyrs—

> Cum Deus dextram quatiens coruscam
> Nube subnixus veniet rubente
> Gentibus justam positurus aequo
>   Pondere libram.
>
> Orbe de magno caput excitata
> Obviam Xto properanter ibit
> Civitas quaeque pretiosa portans
>   Dona canistris.

In this workaday world it is well at times to be able to leave the stress of modern life and to be translated into days in which, although trouble and sorrow were not absent, yet life was more simple and men, being more childlike than are we moderns, were in a way nearer to the things which were and shall be than to those that are.

THE BRACHIAL PLEXUS.

THANKS chiefly to the communications of Robert Kennedy, Wilfred Harris, and Warren Low, attention has been lately redirected to the possibility of successful surgical intervention in traumatic lesions of the brachial plexus. The two last-mentioned observers have also shown that certain cases of infantile paralysis of the arm are amenable to similar treatment. In these circumstances an accurate knowledge of the anatomy of the plexus becomes more than ever necessary. That the arrangement varies somewhat in different individuals is well known and it also seems that the common types of variation are two, one of which at present appears to be comparatively unimportant from a surgical standpoint, whilst the other has a decided practical significance. The first form of variation is in the point at which the anterior primary divisions of the nerve trunks which form the plexus divide into anterior and posterior branches. A comparison of various anatomical text-books will show that although in most the division is described as occurring after the formation of the upper, middle, and lower trunks of the plexus, yet in several the illustrative diagram depicts a different condition of affairs, in that the splitting into anterior and posterior divisions occurs before the three trunks are formed. No doubt the extent to which the dissection is pushed is in the main responsible for the discrepancy, for the subdivision of the trunks by careful dissection is comparatively easy of accomplishment. But a variation which at present appears to be of more practical importance is the displacement of the plexus along the spinal axis a short distance above or below what may be taken as its mean position. Using the terminology of Professor C. S. Sherrington, these dislocations give rise to plexuses of the "pre fixed" or "post-fixed" types. If the displacement consisted in the shifting of the plexus upwards or downwards to the extent of one complete spinal nerve the matter would be comparatively simple, but the ordinary displacement is less than this, leading to a variation in the number of fibres contributed by a nerve to the various terminal trunks into the formation of which it enters. This becomes of great importance when the plexus is the field of surgical proceedings. The researches of Herringham, which formed the basis of a paper communicated to the Royal Society 20 years ago, are familiar to most anatomists. Mr. Sydney R. Scott has adopted the same method of investigation and has published his results in the *Journal of Anatomy and Physiology*, Vol. XL. The investigation does not cover such a wide field as did that of Herringham, being limited to a dissection of the decussating fibres in the plexus itself and not carried on to the actual muscular destination of the various filaments involved. The research of Mr. Scott deals with the interchange of fibres between the fifth and sixth cervical nerves at their point of union and the arrangement of the fibres of the outer, posterior, and inner cords of the plexus. For convenience these decussations were designated alphabetically A, B, C, and D. The results may be briefly summarised as follows. The dissection of decussation A confirmed Herringham's assertion that in certain cases the sixth cervical nerve forms a very inconsiderable part of the suprascapular trunk and sometimes fails to enter it at all. The dissection of the outer cord (decussation B) showed that in the formation of the musculo-cutaneous nerve and the outer head of the median there was practically no interchange of fibres between the fifth, sixth, and seventh nerves. The fifth and sixth fibres entered the musculo-cutaneous whilst the seventh went to the median. These results differ somewhat from those of Herringham who concluded that the outer head of the median nerve always contained filaments from the fifth and sixth roots. Mr. Scott makes no mention of the nerve to the coraco-brachialis, which Herringham described as distinct from the musculo-cutaneous trunk proper and originating from the seventh root. The dissection of the posterior cord (decussation C) revealed the circumflex trunk as derived from the fifth and sixth nerves, whilst the fifth, sixth, seventh, and eighth all entered into the formation of the musculo spiral. The inner cord (decussation D) proved to be constituted as follows: the inner head of the median from the eighth and ninth roots, the ulnar from the eighth cervical, first dorsal, and sometimes also the seventh cervical; and the internal cutaneous from the eighth cervical and first dorsal roots. Herringham's dissections led him to conclude that the internal cutaneous nerve was more frequently derived from the first dorsal alone. The method of presenting his results adopted by Mr. Scott does not give definite information as to the level of origin of the nerves throughout each individual plexus which he examined. Consequently the paper throws no direct light on the frequency of the pre- or post-fixed conditions. Neither is it possible to gather whether, when the upper filaments had a high origin, a *similar displacement* obtained in the lower parts of the plexus. It is usually assumed that the displacement is uniform throughout the contributing roots, but it is well to bear in mind that in one of Herringham's observations the representation of the muscles appeared to begin at the ordinary level but was more than usually lengthened out so that the second dorsal nerve contributed largely to the plexus. The controversy amongst surgeons as to whether Erb's group of muscles is supplied by the fifth cervical root exclusively or by the fifth and sixth roots conjointly may very well be due to anatomical variations. The practical rule to be deduced is that when the plexus is exposed for operation the destination of the nerves should be tested by electrical stimulation before the repair is attempted

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[1] Puck of Pook's Hill. By Rudyard Kipling. London: Macmillan and Co., Limited. 1906. Price 6s. Pp. 306.

MUNICIPAL MUDDLES.

WE have recently been the spectators of what we as ordinary citizens consider a remarkable piece of municipal muddling. Not far from this office some houses are being pulled down. Soon after 8 o'clock a four-wheeled cart, drawn by a fine cart-horse, and sundry men arrived at the houses in question. Soon after 10 o'clock, owing to the traffic in the Strand increasing, the cart, the horse, and the men were directed by the police to stand in Bedford-street. Nothing further occurred until half-past three and we thought it would be interesting to make inquiries. We learned that owing to the owner of the property or the contractor who was pulling down the houses not having complied with certain requirements of the Westminster district surveyor, that official applied to the Works Department of the County Council to supply materials for shoring up certain portions of either the condemned structure or of the adjacent houses. Hence the arrival of the cart. Coincidently apparently with the arrival of the cart the owner of the condemned property or the contractor decided to comply with the requirements which had hitherto been ignored. We were then informed that the cart, the horse, and the men had received orders to wait for instructions. By 4 o'clock the instructions had apparently not arrived, for the cart, the horse, and the men were all there. Now, surely this is an example of pure and simple muddle. Why should three or four men, to say nothing of a valuable horse, be condemned to stand in a damp and windy street for eight hours doing absolutely nothing and with every chance of contracting pneumonia in the case of the men or colic in the case of the horse? If the County Council's shoring apparatus was needed to shore up the house why was it not put into action? If it was not necessary why was it not sent home? Surely somebody might have made up his mind between 8 o'clock and 12, say, whether the retention of the cart, the men, and the horse was or was not necessary. We presume that the expense of the affair will fall upon the owner of the condemned property, but even if it does not the state of things which could allow such a feckless proceeding should, we think, be altered. We may add that the cart, the horse, and the men departed at 4 25 P.M.

"DIABETIC BREAD."

OUR attention recently has been drawn by two correspondents, independently of each other, to a so-called diabetic bread which has lately been introduced from France into the English market. The bread is called "Brusson diabetic bread," and the sole agents for its sale in this country state that the bread is "prepared by a special process and according to the direction of several leading medical men is largely prescribed in France and Germany in the treatment of diabetes, obesity, gout, rheumatism, and in cases where food of a highly nutritious character is indicated." It is added that "in introducing it into England we feel certain it will, in a great measure, overcome the difficulty of dieting diabetic patients owing to the uninviting character of the food hitherto recommended and the early distaste it causes." It is fair to remark that nowhere in the circulars which we have received and in which the bread is described is it stated to be free from starch but it is "an alimentary product (we are quoting from one of the circulars) which, whilst retaining the high nutritive property of gluten and prepared according to medical directions, is agreeable to the taste and can therefore be taken for a lengthy period of time." Again, "this bread ...... presents over the ordinary gluten bread the advantage that it does not swell when baked, is of easy mastication and insalivation, and consequently more digestible." Statements of this kind should serve as a warning to the practitioner never to prescribe a so-called "diabetic food" unless precise statements as to its composition are given. Whether it is justifiable or not to give some patients suffering from diabetes a proportion of starch in their food must be left to the practitioner and to his judgment of individual indications. In any case, he should be acquainted with a correct analysis of the food. The "diabetic bread" referred to contained, according to our analysis in two specimens examined, not less than 50 and 48 per cent. of starch respectively.

THE TREATMENT OF SPRUE.

IN the *Journal of Tropical Medicine* of Sept. 15th Mr. James Cantlie has published an important article on the treatment of sprue. The question of a milk *versus* a meat diet is still debated. Mr. Cantlie has for years advocated a rigid meat diet. While still adhering to this as the means of curing sprue rapidly and efficiently extended experience has modified his view that by this means alone sprue is always permanently cured. He has proved again and again that a patient who appears to be in the last stage—in which there is, in addition to emaciation, anæmia, and dropsy, a decided rise of temperature—can be saved by putting him on home-made beef-tea, raw meat juice, and beef jelly, administered in teaspoonful doses every ten minutes, if necessary. Milk in such cases means death; by meat juices alone can a patient be saved. As the patient's strength improves the interval between times of feeding may be increased, after the first 24 hours, to 20 minutes on the second day and to half an hour or an hour on the third or fourth days. By the fifth day pounded beef will be tolerated and enjoyed and the interval may be increased to two hours, pounded beef, meat juice, beef-tea, and beef jelly being taken seriatim. In a week or a fortnight, if progress is satisfactory, vegetables, bread, and stewed fruit may be added with benefit. But at this stage or later a relapse usually occurs and the treatment seems to have failed. A milk diet, except in the later stages of sprue, will produce solid stools but it does not as a rule cure. A milk and a meat diet cannot be taken together with advantage but a patient on a meat diet may abstain every third or fourth day from meat and take milk for 24 hours. This Mr. Cantlie has found to be the secret of success in the prolonged treatment of sprue. Either diet separately is attended by relapses and ordinary attempts to combine these diets are unsuccessful. The explanation of the success of the method described is difficult. But Sir Lauder Brunton has suggested the following explanation. The bacteria of the intestine can accommodate themselves to almost any kind of food. If a milk diet has been followed a sudden change to a meat diet places them at a disadvantage; their activity ceases and they largely die out. Then they recover and multiply and again become virulent. But on suddenly reverting to milk they are again hampered. In several cases of sprue the patients have returned to the tropics and on one day a week abandoned their usual diet and taken nothing but milk for 24 hours. In this way persons for whom life in a warm climate would have been otherwise impossible have been able to enjoy good health.

SEX MORTALITY FROM CANCER.

ACCORDING to the last issued report of the Registrar-General, relating to the year 1904, the rate of mortality from cancer in England and Wales in that year was equal to 741 per 1,000,000 among males of all ages and to 1006 among females. Compared with the rates recorded seven years previously, in 1897, the increase of the male death-rate from cancer was 17 per cent., while the increase of the female rate did not exceed 8 per cent. Similarly the relative increase of recorded cancer mortality between 1861-70 and 1891-97 was, according to the Registrar-General's sixtieth report, very nearly twice as great among males as as among females. The importance of the question as to the proportion of the constantly increasing number of deaths referred to malignant disease due to improved diagnosis and the greater accuracy in the certification of causes of death cannot be doubted. Some of the statistics contained in the Registrar-General's report moreover raise questions of interest connected with the causation of cancer. Since 1889 these reports have from time to time contained useful statistics bearing upon the parts of the human body affected by fatal cancer. The last issued report contains a table in which the 114,130 deaths referred to malignant disease in England and Wales during the four years 1901-04 are classified according to the part affected, as described by the certifying medical practitioner. It is satisfactory to note that this information was available for those four years in all but 1 per cent. of the fatal cases, whereas in 1897 this information was not ascertained in 5 per cent. of the cases. These recent statistics to a great extent corroborate the conclusions drawn from somewhat similar statistics published in the report for 1889 when it was pointed out that "the increase (in the 20 years 1868-88) has been comparatively slight in those organs which are the commonest seats of malignant growths—namely, the generative and mammary organs of women—and has been largest, and this for both sexes, in the organs of the digestive and the urinary systems, and notably in the intestines, rectum, liver, and urinary bladder." It was then also pointed out that the fatal cases of the disease affecting the mouth, the lips, the tongue, the pharynx, and the fauces showed a very marked increase among men, whereas among women the fatal disease affecting those parts showed a decline. The recently published figures show that in the four years 1901-04 the number of fatal cases of cancer affecting those parts were no fewer than 7246 among males and only 1667 among females. This marked excess of mortality among males in this class of case calls for careful investigation and suggests the inquiry whether it may be the result of nicotine poisoning, as for all other cancer mortality in which the figures are fairly comparable the female rates of mortality considerably exceed the male rates. The fact that the increase of recorded cancer mortality in both sexes continues to be most marked in those cases which present most difficulty in diagnosis throws doubt on the alleged large increase in the actual prevalence of the disease, but throws little light upon the far greater rate of increase among males, which deserves the careful attention of the Director of the Imperial Cancer Research Fund, who appears to have afforded assistance to the Registrar-General in the classification of the parts of the body affected by cancer in the recently published table referred to above. With regard to the increase in the recorded mortality of persons (of both sexes) from cancer it is satisfactory to note that while it was equal to 15·3 per cent. between 1881-85 and 1886-90, the increase has steadily declined in each successive quinquennium and did not exceed 8·0 per cent. between 1896-1900 and 1901-05.

THE OPIUM TRAFFIC.

THE Chinese Imperial edict abolishing the use of opium after ten years recalls the action recently taken by the Transvaal Legislative Council and the Australian Government, an account of which is given in the *Pharmaceutical Journal* of Sept. 29th. The advent of Chinese labourers on the Rand was immediately followed by an enormous increase in the imports of opium. The mine owners found that opium smoking rendered the coolies less efficient workmen and chiefly as a result of their representations the ordinance of Oct. 6th, 1905, was gazetted, restricting the importation of opium and its preparations into the Transvaal to registered medical practitioners, dentists, and druggists. The ordinance also made it unlawful for unqualified persons to be in possession of any such substance except for medicinal purposes, the penalties for offences being exceptionally heavy. The immediate result of this ordinance was to transfer the opium traffic to illicit channels and smuggling was carried on to a large extent. Some of the devices adopted by the smugglers were ingenious, opium having been known to pass through the Customs disguised as "meat extract" and "food for invalids." In January last the Australian Federal Government prohibited the importation of opium for the purpose of smoking and empowered the collector of Customs to grant licences to qualified medical practitioners, pharmaceutical druggists, and persons lawfully carrying on business as wholesale druggists, in order that supplies of opium might be available for medicinal purposes. These various enactments against the opium traffic raise the interesting question as to the effect of immediate prohibition on habitués. The committee appointed by the Government of the Philippine Islands to make a report on the opium conditions in the Orient came to the conclusion that immediate prohibition is likely to cause extreme suffering among those who are already habitués of opium, as it is exceedingly difficult for anyone to discontinue the use of the drug at once. As a result of investigations the committee considered that immediate prohibition is practicable only as a preventive measure in communities where the practice of opium smoking has never obtained. In those communities where opium is used and prohibition has been tried it has proved to be a source of blackmail. The committee stated that the time necessary to enable a person accustomed to the use of the drug to discontinue the habit had been variously estimated at from six months to 20 years.

EXTENSIONS OF THE PROVISIONS IN REGARD TO THE CONTROL OF FACTORIES AND WORKSHOPS AND THE ALKALI TRADES.

The Secretary of State for the Home Department has issued an Order in which in pursuance of Section 65 of the Factory and Workshop Act of 1901 he extends to the classes of workshops named in the schedule to the Order the prohibition of the employment of young persons under the age of 16 years and children without a certificate of fitness of the young person or child for employment. The Order will come into force on Jan. 1st, 1907, and the schedule includes those workshops in which the following processes are carried on: file-cutting: carriage-building; rope and twine making; brick and tile making; making of iron and steel cables, chains, anchors, grapnels, and cart gear; making of nails, screws, and rivets; baking bread, biscuits, or confectionery; fruit preserving and making; and altering, ornamenting, finishing, or repairing of wearing apparel by the aid of treadle sewing machines. As regards the Alkali, &c., Works Regulation Act, 1906, which repeals the Acts of 1881 and 1892, certain chemical works not hitherto liable to registration are required to be registered and are subject to inspection by the local Government inspectors. A circular has therefore been issued to the municipal authorities or district councils in which they are asked to furnish information as to the works in their administrative area which by the recent Act have been brought under the Order for registration. Information is desired accordingly in regard to smelting works, chemical manure works, gas liquor works, nitric acid works, chlorine works, muriatic acid works, sulphide works (barium, strontium, and antimony), alkali waste works, lead deposit works, sulpho-cyanide works, picric acid works, paraffin oil works, bisulphite works, tar works, and zinc works. It is requested that the return asked for may be sent to the Local Government Board not later than Oct. 15th next.

THE THERAPEUTIC VALUE OF OLIVE LEAVES.

The leaves of the European olive, *olea Europæa*, according to a communication from Sir James Sawyer which is published in the *Pharmaceutical Journal* of Oct. 6th, have a definite medicinal value. They are prescribed in the form of a tincture prepared by exhausting four ounces of the leaves with 60 per cent. alcohol to produce one pint. This tincture of olive leaves may be given as a tonic in doses of from 15 to 30 minims and as a febrifuge and antiperiodic in larger doses. The fresh leaves yield an extract which may be given as a tonic in five-grain doses or more in pills or triturated with an aromatic water in a mixture. The tincture is incompatible with ferric salts, forming an inky-coloured mixture; it also precipitates strychnine from solutions. Olive leaves are by no means new to medicine. Their medicinal properties were described in Pereira's "Elements of Materia Medica and Therapeutics," and in 1854, during the Crimean War, Daniel Hanbury declared that "in the treatment of the numerous cases of fever in the military hospitals in the East it would be desirable that practitioners should give a fair trial to so easily accessible a substitute for the costly quinine." During the Peninsular War, 1808-13, olive leaves were frequently prescribed by French practitioners as a substitute for cinchona bark, and Hanbury quoted the analysis of Dr. Pallas, published in 1823, from which it appears that the leaves and young bark of the olive tree contain a crystallisable substance and also a bitter principle to which the febrifugal properties of the plant were ascribed. Though the young bark of the olive tree is richer in these constituents than either the leaves or the old bark Sir James Sawyer prefers to employ the leaves which are more constant in composition. It is interesting to note that in 1843 a Mr. Maltass, writing from Smyrna to Hanbury, described how he found out the medicinal use of the olive tree. He was in the island of Mitylene during a severe epidemic of fever and ague, attacks of which generally proved fatal after a week or ten days. The supplies of quinine were soon exhausted and Mr. Maltass turned over in his mind the various native plants which might yield bitter principles, as he knew that salicin and biberine were useful in cases of fever and ague. Eventually he thought of olive leaves and after several trials on himself he commenced to administer them in the form of a decoction, prepared by boiling two handfuls in a quart of water and evaporating to a pint. Obstinate cases of fever yielded to wineglassful doses, given every three or four hours. Sir James Sawyer's communication serves to show the importance of retaining old and proved remedies and of combating the modern tendency to grasp the newest synthetic remedy and to employ it until another takes its place, neglecting and ultimately forgetting the uses of the old herbs.

Dr. E. G. Graham Little has been elected by the registered graduates in medicine and in surgery, members of Convocation of the University of London, to the vacant appointment in the Faculty of Medicine in the Senate of the University of London which was due to the resignation of Dr. J. F. Payne. Dr. Graham Little obtained 444 votes and Dr. Frederick Taylor, the other candidate, received 431.

The inaugural meeting of the session of the Guy's Hospital Pupils' Physical Society will take place in the physiological theatre to-day (Saturday, Oct. 13th), when Dr. T. Clifford Allbutt, Regius Professor of Physic in the University of Cambridge, will deliver an address on "Words and Things." The chair will be taken at 8 P.M. by Sir Samuel Wilks, Bart., M.D. Lond., F.R.S.

The annual dinner of the past and present students of the National Dental Hospital and College will be held at the Trocadéro Restaurant, Piccadilly-circus, London, on Friday, Nov. 23rd. The chair will be taken by Mr. Henry Morris, President of the Royal College of Surgeons of England.

Professor M. McHardy will deliver the opening lecture of the new session at the Royal Eye Hospital, Southwark, on Monday evening next, Oct. 15th, at 8 0 P.M. All students and practitioners are invited to attend.

The new buildings of University College Hospital, erected through the generosity of the late Sir John Blundell Maple, Bart., will be opened by H.R.H. the Duke of Connaught on Tuesday, Nov. 6th, at 3 P.M.

A TELEGRAM from the Governor of the Mauritius received at the Colonial Office on Oct. 5th states that for the week ended Oct. 4th there were 22 cases of plague and 15 deaths from the disease.

BRISTOL MEDICAL SCHOOL.—Dr. Alexander MacAlister was the guest of the evening at the annual dinner of the Bristol Medical School held on Oct 2nd at the Royal Hotel, Clifton, under the presidency of Dr. Frank J. Wethered.

THE WORKMEN'S COMPENSATION BILL.

(AS AMENDED BY THE STANDING COMMITTEE ON LAW, &C.)

BY ALBERT BENTHALL, F.R.C.P. EDIN.

AFTER various interviews with leading railway, insurance, and other officials representing large employers of labour, I have drafted the following questions which are being put before the Highways Committee of the London County Council, the Railway Committee, and the Committee of the Accident Insurance Offices Association. I shall be obliged if you will allow me to place them before the profession through your columns with the notes explanatory of the position, which I have appended:—

MEDICAL QUESTIONS FOR CONSIDERATION

Re Notice of Accident, Clause 2, (2), page 3, lines 2-3.

Question 1.—Should not the workman state "the cause of the accident and nature and extent of the injury?"

Question 2.—If so, whether "in ordinary language" or on a form?

Re Examinations of Medical Referees, (15), page 10, lines 8, 9, 10

Question 3.—Should the employer have notice of the time and place fixed for the examination?

Question 4.—Should the medical referee, when declining to give a certificate, state his *reasons for so declining?* (The certificate of the medical referee is to be conclusive.)

Re Examinations by Medical Practitioners provided and paid by Employers. 1st Schedule, page 19, (15). (In future these examinations will only be made under the regulations of the Secretary of State and at the intervals prescribed therein.)

Question 5.—Should notice of the intended examination be sent to the workman, so that his doctor may be present if the workman *desires it?*

Question 6.—Or are in some cases surprise visits necessary?

Question 7.—Should a workman be required to submit himself for examination away from his home?

Question 8.—What should be the regulations as to the intervals *between examinations?*

Question 9.—Do the present medical referees in all cases command the confidence of the public?

Question 10.—If not, what should be the requirements of the Secretary of State when appointing medical referees with the largely *increased powers of the new Act?*

NOTES.

Question 1.—I originally suggested, before the Departmental Committee of the Home Office was appointed, that *a workman in his notice of accident should append a short* medical certificate, and I still am of opinion that this would be in the interest of every *bonâ fide* injured workman and that it would save employers from many bogus claims. I was informed, however, that it was impossible, as the labour societies were strongly opposed to it on the ground that many injured workmen could not afford the expense, that the Government certainly would not pay the fees, and that the employers could not be asked to pay for certificates which it was the interest of the workman to place before them. In view of all this, I have put the question in the above form and there is a general consensus of opinion that the "cause of the accident and nature and extent of the injury" should be stated.

Question 2.—I think it is evident that if the above is required it should not be in the ordinary language of the workman but on a short form requiring only short answers, which could be obtained *free* at any post-office.

Question 3.—The medical referee is to act as a judge *whose decision* is final and not subject to appeal. It is evident that the workman must be informed of the time and place of examination and that he can have his medical attendant present at the examination. *It is considered by* employers that it would be unfair if they had not the right of being represented at the examination by a medical man *in* cases in which they thought it necessary.

Question 4.—It is considered that *it would be no hardship* on the medical referee, since he will have received his fee for the examination and *certificate*, *if when* he declines to give a certificate, that he should be obliged to give a detailed statement of *his reasons* for so *declining*, and that this would be in the interest of both employer and workman.

Questions 5 and 6.—This raises a very important question; it is evident that no medical practitioner provided and paid by the *employer* can interfere with *another* medical man's patient or remove dressings and at first sight it would *seem* that the workman should be in *every case* notified of the time and place of the intended examination, *so* that he could have his medical attendant present, but we have to consider the experience of the last seven years and certain hard facts which *it must* be admitted occur, and which must be provided against. It has been found that when the workman knows *the time of the examination* he very seldom has his medical attendant present, as he does not wish to pay any fee; it is only when the *employer* disputes the fact alleged as to the injury and the case is in the hands of a solicitor that a medical man attends on the part of the workman and then in nine cases out of ten not the medical attendant but a stranger, imported by the solicitor into the case, of which he knows nothing. Again, it is stated that in certain cases of malingering, if notice of an intended visit is given, the patient will be found groaning in bed instead of about the house and dressed or away from his house altogether. There is therefore a strong consensus of opinion on this point that surprise visits should be allowed and I do not think that this will be against the interest of the profession, as employers will not send a "medical practitioner" to make a surprise visit, except in suspicious cases, as he could not report if the man was *out or if his injury* was in antiseptic or other dressings which could not be removed without the medical attendant.

Question 7.—This would be necessary in many cases and would not be a hardship *if the distance were not unreasonable* and the employer paid the fare, but the workman should not be under *the obligation if he* wished his *medical* attendant to be present, as the expense of bringing the medical man away from his visiting district would be *prohibitory.*

Question 8.—This is almost an insolvable problem; the *clause has evidently been introduced to prevent a certain* practice which is highly objectionable—that of continually *requiring* the workman to submit himself *for examination* with a view of worrying him into a settlement of his claim. I think, *however, that this practice will automatically cease* when settlements have to be registered in the county court and will be *upset if unfair. If,* however, the Secretary of State must make regulations it is clear that one interval will not suit all the *differing cases and hardship might arise.* I think a limit might be fixed, to be altered, however, in any *case with the consent of the medical attendant of the workman.*

Question 9.—I am *sorry to say that in some instances* medical referees do not command the confidence of the *profession in their districts or of many employers* that I have met.

Question 10.—It has been impressed on me by both employers and workmen that a new list of medical referees should be appointed, each newly appointed man being a surgeon of experience, used to the examination of accidental injuries and all forms of malingering; he should *not* be employed by any firm of employers, or society of workmen, or by an insurance office doing workmen's *compensation* business, and, if possible, he should be a surgeon *to the* local hospital. It is certain that if the medical referee whose *decisions are to be final and conclusive does not command* the entire *confidence of the profession in his district* an *intolerable* state of things would *arise* and *the Act* become unworkable.

THE QUATERCENTENARY OF THE UNIVERSITY OF ABERDEEN.

A BRILLIANT series of functions took place from Sept. 25th to 28th inclusive, both town and gown uniting in making celebration week one never to be forgotten in the *history of the University.* Among the most *notable features* were the absolutely perfect weather, the catholicity of the response to the University's invitation—from Canada and *the* Cape, from Australia and India, from North and South America, from Syria and Japan, and from every country in Europe—and the excellence of the organisation, the details of all the ceremonies being attended to with Japanese forethought and thoroughness. The only suggested improvement was that of Professor Ostwald that the text of a speaker's address should be projected by means of an optical lantern on a large screen *above* the speaker, line by line appearing as he proceeded, so that every one of the many thousands *present* could have followed the words.

The celebrations opened on the morning of the 25th with a commemoration service in King's College Chapel. The attendance had to be limited but was strictly representative and cosmopolitan. The rich colours of the gowns and uniforms worn blended in picturesque harmony with the beautiful chapel, the whole forming a picture of the greatest brilliance and splendour. In the afternoon a procession of the members of the University, guests and delegates, and the town officials took place from Marischal College to the Strathcona Hall, between 3000 and 4000 persons taking part. It was a magnificent and brilliant spectacle, nothing like it having ever been seen in Aberdeen, and in point of gorgeousness of colour and of picturesqueness it was superb, while the number of distinguished men from many lands was remarkable. In the hall a most imposing ceremony took place in the reception of the delegates. The delegates of each country rose when called on and approached the dais, while the band played the national air of their country. One delegate spoke for each country and many congratulatory addresses from the various universities and institutions were presented to the Chancellor. There was a constant succession of delegates for about two hours. St. Bartholomew's Hospital, London, was represented by Sir Dyce Duckworth and the text of his address was as follows:—

UNIVERSITATI ABERDONENSI
SCHOLA MEDICINAE SANCTI BARTHOLOMAEI APOSTOLI APUD LONDINENSES
S. P. D.

Quarto jam saeculo diem referente natalem Universitatis vestrae, gratulatur vobis animo libentissimo schola Hospitii Sancti Bartholomaei, et bona omnia et fausta precatur.

Misimus feriarum vestrarum non modo testem sed etiam participem collegam nostrum Dyce Duckworth, Equitem Auratum, emeritum hospitii nostri medicum.

Non enim sumus immemores inter alumnos Aberdonenses qui doctrina ac virtute Universitatis suae annales exornaverunt, complures in re medica illustres scholae nostrae ampliorem famam contulisse.

Nihil ergo, viri doctissimi, hodie auspicatius arbitramur quam doctrinae sedi tam insigni in posterum per saecula plurima fortunam in dies feliciorem exoptare. Valete!

The following is the text of an address presented by Mr. Henry R. Swanzy, President of the Royal College of Surgeons in Ireland, in the name of the College:—

PRAECLARAE UNIVERSITATI ABERDONENSI
REGIUM COLLEGIUM CHIRURGORUM APUD HIBERNOS
S. P. D.

Vehementer vobis, viri illustres, gratulamur quod quattuor saeculis prospere decursis quintum iam auspiciis faustissimis inchoatis.

Universitas Aberdonensis cum primum orta est anno post Christum natum MCCCCXCV, in ipsis incunabulis Facultatem Medicinae longe in his finibus antiquissimam instituit—cuius rei gratia sit conditori vestro sagacissimo Gulielmo Elphinstone.

Unde est orsa in eo perstitit atque nunc perseverat. Per annos iam quadringentos haec regna, imperium Britannicum, cuncti denique homines Universitati vestrae Scientiam Disciplinamque Medicam auctas fotas ornatas gratis animis assignarunt et assignant.

Anatomiam Activam, quae dicitur,—studium arti quam praecipue nos colimus coniunctissimum—usque ab anno MDCXXXII. *successu* optimo exercuistis.

Iuvat referre nomina *Professorum* et *Alumnorum Aberdonensium qui* in summam claritudinem rei Medicae et peritia et exercitatione pervenerunt. Ne taceamus Andraeum Moir, Gulielmum Pirie, Matthaeum Duncan, Andraeum Clark, quattuor denique Gregorios qui de Schola Medica intra muros Academicos condenda tam bene meriti sunt. Plures immo plurimos alios viros insignes memorare liberet, sed finibus certis continemur ultra quos veremur ne iam iam egressi simus.

Restat ut Universitati Aberdonensi totis animis de hac tam felici occasione etiam atque etiam gratulemur et vota dignissima nuncupemus pro perpetua eius incolumitate faustoque novi saeculi initio.

Nomina Subnotabamus.
HENRICUS R. SWANZY, Praeses.
JOHANNES LENTAIGNE, Praesidis Vicarius.
Id. Sext. MCMVI. CAROLUS CAMERON, Secretarius.

In the evening a banquet was given in the music hall by the town council, the students meantime having a torchlight procession.

The opening ceremonial on Sept. 26th was the conferment of honorary degrees in the Mitchell Hall. Seldom, if ever, has any university had the privilege of bestowing the highest honour in its gift upon such a large and representative company of eminent men, among whom were the following distinguished medical men: Sir James Crichton-Browne, Lord Chancellor's visitor in lunacy; W. Einthoven, professor of physiology, Leyden; Herbert Mackay Ellis, Director-General of the Royal Navy Medical Service; Carl Flügge, professor of hygiene, Breslau; H. J. Hamburger, professor of physiology, Groningen; Ferdinand Hueppe, professor of hygiene, Prague; Howard A. Kelly, professor of gynæcology, Johns Hopkins University, Baltimore; Sir Alfred Keogh, Director-General of the Army Medical Service; Rudolf E. Kobert, professor of pharmacology, Rostock; Casimir Kostanecki, professor of anatomy, Cracow; Hugo Kronecker, professor of physiology, Bern; Sir Francis H. Laking, physician-in-ordinary to His Majesty the King; Oscar Liebreich, professor of pharmacology, Berlin; Friedrich Loeffler, professor of hygiene, Greifswald; Cesare Lombroso, professor of psychiatry, Turin; Donald MacAlister, President of the General Medical Council; A. B. Macallum, professor of physiology, Toronto; Sir John Macfadyean, principal of the Royal Veterinary College; Jinzo Matsumura, professor of botany, Tokyo; Edmund Owen, Vice-President of the Royal College of Surgeons of England; Rev. George E. Post, professor of surgery in Johanite Hospital, Beirut; Sir Richard Douglas Powell, President of the Royal College of Physicians of London; Guglielmo Romiti, professor of anatomy, Pisa; Ronald Ross, professor of tropical medicine, University of Liverpool; Frederick Trendelenburg, professor of surgery, University of Leipsic; Sir William Turner, Principal of the University of Edinburgh; J. William White, professor of surgery, University of Pennsylvania; J. W. van Wijhe, professor of anatomy, University of Groningen; and Sir John Williams, late professor of midwifery, University College, London.

In the afternoon an interesting feature was the athletic sports at King's College, while in the evening a reception in the Art Gallery and a students' ball attracted the attention of the visitors. The Medico-Chirurgical Society held dinners on the 26th and the 28th, at which Professor A. Ogston and Dr. Angus Fraser respectively presided over very pleasant companies of eminent medical men.

Thursday, the 27th, proved the most memorable day, when His Majesty the King, accompanied by the Queen, came to declare the new buildings open. The quadrangle was converted into a spacious assembly hall for the occasion, and the seating of over 4000 spectators was carried out without a hitch. The scene during the arrival of the great assemblage was exceedingly picturesque. Their Majesties had a most cordial reception. Miss Ramsay presented the Queen with a bouquet and Principal Lang read the address from the University. The King, in reply, said: "On behalf of myself and the Queen, I thank you heartily for your cordial welcome and your dutiful address. It gives us great pleasure to be present at this commemoration of the founding of the two institutions incorporated with the University of Aberdeen, which, during four centuries, has played so distinguished a part in the advancement of learning. Your allusions to the close association of many of my predecessors on the Throne, especially of my august and beloved mother, with the University are of deep interest, and I shall always feel a lively concern for its welfare. I am glad to know that with this commemoration is combined a notable addition to the equipment of the University. It gives me much pleasure to open these new buildings for the promotion of scientific and higher education, for I am well assured that the further pursuit of those studies will advance the prosperity of this part of my realm and add to the great name and traditions of the University."

The Royal visitors graciously inspected part of the new buildings. The Royal Army Medical Corps (Volunteers), under the command of Major J. Scott Riddell, M.V.O., were proud of the distinction accorded them of forming a guard of honour at the entrance to the quadrangle.

Their Majesties, after leaving the University, were entertained by the corporation at the Town House, while during the evening the great Strathcona banquet was held, at which 2400 guests were present. Over 70 tables were set and a pleasing feature was the seating together of old class-fellows, so that the gathering really resolved itself into a series of class reunions. The hall presented a magnificent spectacle and the whole occasion was a conspicuous success. In giving the toast of "The University of Aberdeen," Lord Balfour of Burleigh paid a high tribute to the virtues of the universities of Scotland; they were, he said, national institutions which had caught the genius of the nation and rendered signal service to the nation at large. They had been animated by a high tone of learning for learning's sake and that was why they had been successful. The banquet was a remarkable event in the University's history and the graduates and students will not readily forget the generous hospitality of Lord Strathcona.

In the forenoon of the 28th excursions were made to places of interest, while in the afternoon a reception was held at the infirmary. The closing functions were an "at home" in Marischal College and a students' symposium in the Music Hall. All the buildings were thrown open for inspection during the former function.

On reviewing, in Professor J. Arthur Thomson's words, the days of celebration one sees again a succession of impressive pictures—the chapel service, the light streaming through a window and almost transfiguring a well-known venerable thinker who looked like a picture of philosophy; the academic pageant with its dazzling variety of costume winding through the crowded streets; the reception of delegates, when university after university, country after country, marched past the Chancellor leaving addresses of greeting; the capping of the honorary graduates, a phalanx of immortals; the sea of faces filling the quadrangle when the King opened the new buildings; and the feeding the 2400 in the Strathcona Hall. In all these pictures there was immediate stimulus to memory and outlook, to pride and gratitude; but when all the bustle has passed away we feel that they had a significance which grows more impressive as we think over it, which will never lose its hold on those who have felt it all. *Vivat, crescat, floreat Universitas Aberdonensis.*

HOSPITAL AND MEDICAL SCHOOL DINNERS.

St. Bartholomew's Hospital.—The annual dinner of the old students of St. Bartholomew's Hospital took place in the great hall of the hospital on Oct. 1st. Dr. J. A. Ormerod was in the chair and 148 gentlemen were present. The chairman, in proposing "Prosperity to the Hospital and Medical School," took occasion to insist on the unity and mutual inter-dependence of hospital and school. He reviewed the history of the last few years, which had necessarily been a time of anxiety, and the present satisfactory condition of the institution, and said that the material improvements now in progress, the zeal of those who worked there, and the loyalty of old St. Bartholomew's men were certain guarantees of success. Mr. Acton Davis, in responding, affirmed the strong interest taken by the governors in the welfare of the school. He mentioned the approaching completion of the great new block of the out-patient and special departments, and the inception in the immediate future of the pathological block, and following this of the nurses' home. He appealed to old students to interest others in the work. The toast of "The Guests" was proposed by Mr. H. T. Butlin, who, coupling Professor W. Osler's name with it, remarked that his "Practice of Medicine" was in constant use even in the surgical wards. Professor Osler, in responding, observed that he always found surgical wards full of interesting medical cases. He recalled his old days as a student at St. Bartholomew's and referring to the new buildings in progress remarked that though new equipment was important, more important still was the old spirit. He expressed his pleasure at hearing of the inception of the pathological block and said how necessary pathology was to the proper performance of hospital work. Above all he desired to emphasise the immense importance of the presence of medical students in a hospital. He declared that it made all the difference in the way in which the work was carried out. Dr. Norman Moore proposed "The Health of the Chairman," and after dinner an adjournment was made to the library for tea, coffee, and conversation.

Charing Cross Hospital.—The past and present students of the Charing Cross Hospital and Medical School dined together at the Hotel Cecil, Strand, London, on Oct. 1st. The chair was taken by Dr. William Carter of Liverpool, who sat between Professor Ivan Petrovitsch Pawlow of St. Petersburg and Lord Kilmorey, the chairman of the hospital. The toast of "The Charing Cross Hospital Medical School" was intrusted to Lord Kilmorey who delivered himself of an indignant protest against the noise caused by the motor omnibuses in King William-street. He said the noise was so great that the patients in the wards of the hospitals were disturbed in their sleep and he emphasised the importance of diminishing the nuisance. He also explained why it was inadvisable for the hospital to be moved from its present position. Dr. Christopher Addison, in replying to this toast, dwelt on the fact that the number of medical students in London was diminishing. The number of medical students at the provincial centres was increasing but he did not think on that account that the Charing Cross Hospital Medical School need have any apprehension because its defects had been remedied and necessary economies introduced so successfully that the financial year of the school had ended with a small balance on the right side. Dr. T. W. Eden, in a few well-chosen words, proposed the toast of "The Guests," which was replied to by Professor Pawlow and Mr. R. M. Pattison. Professor Pawlow only spoke a few words in German, thanking the students of Charing Cross Hospital for their kind reception of him, and ended with the word "Lebewohl." Mr. James Cantlie, in submitting the toast of "The Chairman," stated that in his opinion the provincial universities, especially the University of Birmingham, had been emptying the London medical schools. After a short reply from Dr. Carter the formal proceedings ended. In the course of the evening Dr. F. W. Mott was called upon to sing and was obliged to give an encore, his rendering of "Here's a Health unto His Majesty" eliciting loud applause.

London School of Tropical Medicine and London School of Clinical Medicine.——The dinner of these two schools was held on Oct. 8th at the Hotel Cecil, and in consequence of the unavoidable absence of the Duke of Marlborough the chair was taken by Sir William H. Treacher. Among those present were the following: Professor Blanchard of Paris, the Director-General of the Royal Navy Medical Service, the President of the Medical Board of the India Office, Sir Dyce Duckworth, Sir Patrick Manson, Colonel Kenneth Macleod, Mr. H. J. Read of the Colonial Office, Dr. Paul Joly of the Ministry of Marine of Paris, Sir William H. Bennett, Mr. Malcolm Morris, Sir Francis H. Lovell, Dr. Guthrie Rankin, Professor W. J. R. Simpson, Mr. L. Vernon Cargill, and Mr. Perceval A. Nairne (chairman of the committee of management). Professor Blanchard gave an eloquent address in French and laid special emphasis on the world-wide reputation of the Tropical School in having attracted to it, among the 40 students now in the laboratories, representatives from the following countries among others: Greece, Finland, Holland, Italy, the United States of America, Guatemala, and Honduras.

St. George's Hospital.—The annual dinner of past and present students of St. George's Hospital was held at the Whitehall Rooms, Hôtel Métropole, on the evening of Oct. 1st, when a company of about 120 supported the chairman, Mr. Clinton T. Dent, senior surgeon to the hospital. The numerous speeches were remarkable for their excellence and their brevity—terms often almost synonymous when they refer to after-dinner oratory. The chairman, who has a happy knack of postprandial epigram, was in excellent vein; and the Bishop of Bristol, who had in the afternoon delivered a most eloquent address at St. George's Hospital, an abstract of which will be found at p. 982, was no less admirable and to the point in his witty and well-delivered speech after dinner. Dealing with medical school statistics Mr. F. Jaffrey was able to state an improvement in the entry figures for the ensuing session. It is satisfactory, therefore, that as a purely clinical school the first steps of this ancient institution seem to tread an auspicious path.

King's College Hospital.—The annual dinner of the old students of King's College Hospital was held at the Hotel Cecil on Oct. 2nd, Professor Nestor Tirard being in the chair. In spite of the wet weather a goodly representation of old friends was gathered together, numbering about 100, and as visitors were General Lord Methuen, chairman of the hospital; Sir Charles Ollivant, K.C.I.E.; the Rev. Dr. Headlam, principal of King's College and vice-chairman of the hospital; Mr. Charles Awdry, treasurer; and Mr. W. A. Pite, architect to the new hospital. Amongst the members of the staff were Professor U. Pritchard, Dr. J. Phillips, Dr. N. Dalton, Dr. J. F. W. Silk, Dr. StClair Thomson, Dr. R. H. P. Crawfurd, Dr. G. F. Still, Sir Hugh R. Beevor, Professor Watson Cheyne, Professor M. McHardy, Mr. F. F. Burghard, Mr. P. T. B. Beale, Mr. L. V. Cargill, and Mr. A. Carless. The army was represented by Colonel A. T. Sloggett, C.M.G., Colonel Bond, and Major Vipan, and the Indian Medical Service by Major R. H. Castor. Notes of regret for non-attendance were received from a number of old friends, and expressions of goodwill and wishes for a successful winter session were exchanged with University College and St. Thomas's Hospitals, the dinners of which were taking place in the same building. In proposing the toast of the evening, "Success to King's College Hospital and its Medical School," Professor Tirard alluded to the two factors which were guiding the evolution of medical teaching at the present day—namely, the centralisation of the earlier studies and the decentralisation of hospitals. Both of these had influenced King's College Hospital to a considerable extent. On the one hand, the clinical school of the hospital had been completely dissociated from the scientific faculty at King's College, into which the departments of anatomy and physiology were now incorporated. Other hospitals showed their appreciation of this arrangement by sending their students to

King's College for their earlier medical studies. The proposed removal of the hospital to a site south of the Thames had been necessitated by the change in its immediate surroundings. Clare Market had disappeared, and Drury-lane and all the slums associated therewith were being opened up and improved, so that the out-patient and casualty departments were steadily falling off in numbers. Lord Methuen, who replied in behalf of the hospital, spoke cheerily of the prospects of success but admitted that much hard work would be needed to carry the enterprise to a successful issue. The Rev. Dr. Headlam also replied on behalf of King's College. The chairman then proposed the health of the visitors, which was responded to by Sir Charles Ollivant. He referred to the recent Elizabethan fair, for which he acted as chairman of committee, and pointed out that the financial result of this effort had been most satisfactory, a sum of £6500 having been handed to the building committee. The chairman's health was proposed by Colonel Sloggett in warmly appreciative terms and was drunk enthusiastically.

London Hospital.—The London Hospital old students' dinner was held on Oct. 1st at the Savoy Hotel. Mr. John Holroyde presided, and among those present were Lord Stanley, Mr. W. Douro Hoare (chairman of the College board), Mr. J. B. Millar (Master of the Grocers' Company), Mr. G. K. Morice, Mr. Rowland Plumbe, Mr. A. R. Bankart, Dr. T. N. Brushfield, nearly all the members of the medical staff, and Dr. Bertrand Dawson and Mr. P. Furnivall, the honorary secretaries. The chairman proposed the toasts of "The King" and of "Queen Alexandra (President of the London Hospital), the Prince and Princess of Wales, and the other members of the Royal Family," which were honoured with enthusiasm. The following telegram was despatched to the Queen:—

> At the annual dinner of the old students of the London Hospital the toast of your Majesty's health has been drunk with the utmost enthusiasm, and the fervent wish expressed that your Majesty may long be spared to your country, and that the assistance your Majesty has been so graciously pleased to extend to the London Hospital, of which your Majesty is President, may always continue.

The chairman, in proposing the toast of "The London Hospital," said the hospital was rich in traditions, its history extending over 160 years. During that period it had trained men whose names had become honoured words in their profession. Its founders and teachers were actuated by a spirit of benevolence of the highest kind. The changes at the London Hospital had been many and great but they had always been in the direction of improvement. In point of organisation, equipment, and administration they might fairly claim that they were second to none. The last year marked the end of their rebuilding scheme, a work which had been going on for nine years and which had made their hospital one of the most complete and up-to-date hospitals in the world. The whole place was instinct with the spirit of modern thought and science, the facilities for teaching and study being unequalled. The entries this year were the highest on record, 89 new students having been entered. Among the factors in their success must be mentioned first and foremost the name of their chairman—the Hon. Sydney Holland—whose absence they all regretted. The hospital was also much indebted to their treasurer—Lord Stanley. Lord Stanley, in response to the toast, said that the London Hospital was somewhat affected by the prevailing shortness of money, although not so much as other hospitals. As regards their efficiency he would make bold to say that the London Hospital was the hospital of the British Empire. It was because people knew that they stood for efficiency that they had suffered less than others in the matter of subscriptions. But they were suffering none the less, and, curiously enough, one reason for this was to be found in their thoroughness. There were some who thought that efficiency could only mean cheapness, but that was not the case. If they saw that a bed at "The London" cost, say, £100, while a bed at another hospital cost £50, they were inclined to think that they would do twice as much good by giving £100 to the cheaper hospital. But there was no greater fallacy than that, for at the London Hospital they were determined to be abreast, if not ahead, of the time, and they had in mind not merely the cure of the individual but the benefit of suffering mankind throughout the world. That necessarily meant that learning and teaching at the London Hospital were expensive and others were learning at their expense. Of that they were glad but at the same time subscriptions should not be withheld from them on that account. As a remedy for the shortage of money they must not for a minute contemplate State aid; he did not think that would spell either economy or efficiency. People must either get richer or become more generous. In addition, he appealed to them all to send their friends to see what the hospital was doing. Visitors would be received with pleasure and he was certain that an inspection would lead to further subscriptions. Mr. E. Hurry Fenwick, who also responded to the toast, said that the hospital was not much thought of in the "seventies," but now the King and Court selected their surgeons from their old students and Aberdeen could not celebrate the quatercentenary of its university without taking a Rector from their ranks. This result was largely due to the governing bodies, the medical council and the general committee. Mr. C. W. Mansell Moullin proposed the toast of "The Chairman," to which Mr. Holroyde briefly responded, and the company separated.

St. Mary's Hospital.—The annual dinner of the past and present students of St. Mary's Hospital and Medical School took place at the Whitehall Rooms, Hôtel Métropole, on Oct. 2nd. The chair was taken by Dr. Montagu Handfield-Jones, obstetric physician to the hospital. After the usual loyal toasts the chairman proposed the toast of "St. Mary's Hospital and Medical School." In reply Dr. H. A. Caley, the dean, referred to recent successes and in particular to the great number of students attracted to the pathological department by the brilliant work of Sir Almroth E. Wright. Dr. F. C. Marthy also responded for the past in a humorous speech. The evening concluded with a capital selection of songs and recitations. Amongst those present, besides the members of the active staff, were Sir Alfred H. Keogh, Sir Anderson Critchett, Mr. Edmund Owen, Mr. Herbert W. Page, and Mr. Malcolm A. Morris.

Middlesex Hospital.—The presentation of prizes and scholarships by the Lord Mayor and the delivery of the inaugural address by Dr. H. Campbell Thomson, which marked the commencement of a new academic year, were followed in the evening by a reunion of old Middlesex students and their friends at the annual dinner in the Empire Hall, Trocadéro Restaurant, at which 154 were present. The occasion was a memorable one, since both the President of the Royal College of Physicians of London and the President of the Royal College of Surgeons of England as members of the consulting staff of the hospital were present, the latter occupying the chair. The loyal toasts having been duly honoured, the chairman, in proposing "The Middlesex Hospital and its Medical School," reviewed the work of the past year, alluding specially to the crisis through which the medical schools were passing and congratulating those present on the completeness of equipment of the institution and its maintenance as an integral and necessary part of the hospital. Lord Cheylesmore, who replied as chairman of the weekly board and of the school council, added some interesting details in regard to the progress of the hospital and school, showing how the work of each had been carried on without any curtailment of extent or efficiency, in spite of the great additional expenses incurred in the re-roofing and overhauling of the building, the establishment of a complete sterilising plant to keep pace with the requirements of aseptic surgery, and various other improvements, though diminished contributions to hospital charities generally had entailed the strictest economy and a special scrutiny into every detail of expenditure, to attain this end. Dr. W. S. Lazarus-Barlow, superintendent of the Cancer Research Laboratories, who had recently returned from the special congress on this subject in Berlin, spoke of the high appreciation accorded to the archives of the Middlesex Hospital by those whom he met there and their remarkable familiarity with the work in progress and the actual members of their staff. Lieutenant-Colonel M. W. H. Russell, R.A.M.C., replied on behalf of the past students, particularly in relation to the Royal Army Medical Corps, in which Middlesex men had ever taken a distinguished share, being concerned in most of the prominent events of the service in recent years. He was pleased to see there was no falling off in that direction and welcomed the new recruits with fervour. Mr. M. L. Hine, who as senior scholar of the year spoke on behalf of the present students, pointed out in a very frank and lucid way some of the immediate wants of the school, his remarks being received with evident sympathy both by the junior members present and those in authority. Sir Richard

Douglas Powell, President of the Royal College of Physicians of London, proposed the health of "The Visitors" and the toast was replied to by Chevalier Wilhelm Ganz who, with Mr. Hirwen Jones, Mr. Richard Green, and Mr. Charles Ganz, added greatly to the enjoyment of the evening by a delightfully rendered musical programme. The health of the chairman having been proposed by Dr. W. E. Wynter and duly acknowledged, a most enjoyable entertainment was brought to a close at 11 P.M.

St. Thomas's Hospital.—Dr. Arthur Newsholme, medical officer of health of Brighton, presided at the St. Thomas's Hospital old students' dinner, held in the banqueting hall of the Hotel Cecil on Oct. 2nd. The attendance of guests was large, covers being laid for over 150. The toast of the evening, that of "The Hospital and Medical School," was proposed by Dr. Newsholme who passed in review the names and deeds of the celebrated medical men connected with St. Thomas's Hospital. He described how the magnificent pile of hospital buildings had impressed him with their beauty when viewed from Westminster Bridge and launching into poetry he quoted from Wordsworth's sonnets the lines :—

> "Earth has not anything to show more fair;
> Dull would he be of soul who could pass by
> A sight so touching in its majesty."

Mr. J. G. Wainwright, the treasurer, replied to the toast and praised the chairman for the scientific distinctions which he had achieved and the public health work which he had accomplished at Brighton. The scientific study of medicine as taught in St. Thomas's Hospital Medical School was highly efficient and afforded every facility for study. The excellence of the laboratories might be taken as a feature of the school. Mr. Wainwright then proceeded to announce that the nurses' new home at the eastern corner of the hospital would be occupied shortly. He also hoped that the new St. Thomas's home for paying patients would be soon in active use and that the more complete privacy arranged for would be appreciated. Whilst St. Thomas's men sent the hospital a great number of patients who could not pay he urged them kindly to remember the very efficient home provided by the hospital for patients who could pay. There was looming before the hospital authorities the absolute necessity in connexion with obstetric teaching of providing a lying-in ward. The matter was therefore occupying their earnest attention. Plans had been prepared for the provision of departments for in-patients and out-patients in connexion with diseases of the throat, skin, and ear, but he was afraid that the financial position of the hospital must call for a halt in capital expenditure. A hospital school council had been established consisting of five members of the staff, five governors, two lecturers, and one representative of the Senate of the University of London. The dean, Mr. J. H. Fisher, who also responded to this toast, said he was sure that the new hospital school council would help forward the work of the school. The toast of "The Chairman" was proposed by Dr. E. C. Seaton and received a suitable acknowledgment.

University College Hospital.—The old and present students of University College Hospital Medical School held their annual dinner at the Hotel Cecil on Oct. 2nd, under the presidency of Professor G. D. Thane, LL.D. The company, which numbered 130, included Sir William R. Gowers, Surgeon-Lieutenant-Colonel H. W. Kiallmark, Professor E. A. Schäfer, Dr. F. T. Roberts, and Dr. T. Gregory Foster, Provost of the College. After the loyal toasts the chairman proposed "University College Hospital and Medical School." In proposing the toast Professor Thane insisted upon the absolute necessity in a properly equipped medical school of ample provision for the teaching of pathology and for pathological research. Upon this must largely depend the future success of the new School of Advanced Medical Studies. Professor Sidney Martin, dean of the Medical School, replied. Professor Schäfer, in a very felicitous speech, proposed "Success to University College" to which Dr. Foster replied. The chairman's health was proposed by Professor H. R. Spencer who referred to the very eminent services which Professor Thane had for so many years rendered to University College. Dr. Roberts and Dr. P. D. Turner sang and the gathering was generally considered to have been one of the most successful that has been held.

Westminster Hospital.—The annual dinner of past and present students of the Westminster Hospital was held on Oct. 1st at the Trocadéro Restaurant. The chair was occupied by Dr. F. de Havilland Hall who presided over a large and representative gathering. After the loyal toasts had been duly honoured the chairman proposed "The Westminster Hospital and Medical School." The dean, Mr. E. Percy Paton, in replying, was able to assure the old students of the very satisfactory working of the new arrangement with King's College Science Department for the teaching of the earlier subjects of the curriculum. He was able to state that the school was in a fair way to a further period of prosperity. Of one thing he was certain—namely, that in the education provided for the student at Westminster they were offering a very good article at a very good price—he might say at an improving price. Mr. A. H. W. Hunt of Wolverhampton, who replied on behalf of the past students, said that he had that day been round the hospital wards and special departments and was much impressed with the completeness of the equipment and the great facilities for clinical work of every description now possessed by the students. The toast of "The Guests" was given in an amusing speech by Dr. Bertram L. Abrahams and was coupled with the name of Dr. J. Barry Ball. Dr. Frederick S. Palmer proposed the health of the chairman, who acknowledged the honour in suitable terms. A suggestion was bruited that for a year or two at any rate the annual dinner should be held in May or June, to facilitate the attendance of country practitioners and those in the services. An expression of opinion on this point by Westminster men would be welcomed by the school.

THE PETITION OF THE METROPOLITAN HOSPITAL SUNDAY FUND FOR A ROYAL CHARTER.

WE have received the following with a request for its publication :—

BRITISH MEDICAL ASSOCIATION.

METROPOLITAN COUNTIES BRANCH.

Memorandum on the Petition and draft Charter of the Metropolitan Hospital Sunday Fund adopted by the Council of the Metropolitan Counties Branch of the British Medical Association at a meeting held on 25th September, 1906,

and

Submitted on behalf of the Metropolitan Counties Branch of the British Medical Association to the Lord President of His Majesty's Privy Council on September 29th, 1906.

With reference to the Petition of the Council of the Metropolitan [illegible] for the Grant of a Royal [illegible] ed, in the name of and for, [illegible] 's Branch of the British [illegible] l practitioners resident in [illegible] s of the great majority of [illegible] n area, beg most humbly [illegible] the Charter in question, namely:

I. That the Metropolitan Hospital Sunday Fund, by its power of determining the conditions upon which contributions to hospitals should be granted, exercises a controlling influence upon the administration of London hospitals, and the petition for a Charter by that Fund is therefore a matter of deep concern to the whole of the medical profession, not only to those practitioners who staff the various hospitals, but also to those who are not so attached.

II. That it has not been sufficiently recognised that hospitals depend for their existence probably as much upon the gratuitous services of members of the medical profession as upon the monetary gifts of the charitable public, and that all medical practitioners, even those not on the staff of any hospital, are therefore deeply interested in the administration of hospitals.

III. That the constitution of the Metropolitan Hospital Sunday Fund fails to provide for any representation in its Council and in its committee of distribution of medical practitioners, who could best guide it in dealing with the medical requirements of hospitals, and that the public interest thereby suffers.

IV. That while admitting cordially the beneficent work carried out by the Metropolitan Hospital Sunday Fund in many respects, we are constrained to recognise that this Fund, as almoners of money collected by public subscriptions, has failed to exercise as much influence as might have been expected in removing such serious defects in our hospital system as are submitted below, viz. :—

(1) That the out-patient departments of London hospitals, as at present conducted, have a pauperising effect on the patients, through the indiscriminate treatment of applicants whose cases are more suited for reference either to provident dispensaries or to private practitioners or to the Poor-law, and that the treatment in out-patient departments of cases that present themselves is frequently ineffective owing to the large numbers of such patients and the absence of that home supervision which many of the cases require.

(2) That the small payments exacted from patients in several hospitals in London which are subsidised by the Metropolitan Hospital Sunday Fund *undoubtedly* augment the moral injury to patients by creating a false idea that sufficient payment is being made, and are more unfair to private practitioners and provident dispensaries in the neighbourhood of such hospitals than absolutely gratuitous attendance. It must be understood, however, that this does not apply to cottage hospitals where payments for maintenance are made and patients treated by their own medical attendants.

(3) That in our opinion the out-patient departments should only be used for important and selected cases referred for consultation by private practitioners or provident dispensaries, and thus centres of clinical interest would be created to the great advantage of scientific medicine and surgery and the improvement of material for clinical teaching.

(4) That the casualty departments of general hospitals are especially abused by the admission of trivial cases of accident and sudden illness which might quite well be treated elsewhere, and, while we perfectly recognise the necessity of supplying first aid without question to really urgent cases, there is, in our opinion, no justification for the very large numbers who obtain gratuitous treatment in the casualty departments of such hospitals.

(5) That while regarding the employment of trained almoners in all departments of hospitals as indispensable, we are of opinion that subscribers' letters should be abolished, and, so far at least as clinical suitability for hospital treatment is concerned, medical practitioners should alone recommend.

(6) That the existing efforts to promote forethought, thrift, and independence among the working classes by means of provident dispensaries would in our opinion be more successful if the competition of out-patient departments and free dispensaries were removed.

(7) That many of the out-patients of hospitals belong to the destitute class who are fit subjects for treatment under the Poor-law, apart from economical considerations, as it is not so much the mere administration of physic as food and other comforts which they require.

(8) That the hospitals to a great extent compete with and encroach on the field of work and limit the experience of medical practitioners by undertaking cases which are neither clinically nor financially suited for hospital treatment, to the ultimate detriment of public interests.

V. That the coordination and coöperation of hospitals and other medical charities, and of members of the medical profession practising in the metropolis, are especially necessary in the metropolitan area for the removal of the abuses which we have noted, and in our opinion an important step towards this would be attained by securing the adequate representation of the medical profession upon the Council of the Hospital Sunday Fund as constituted in the proposed Charter.

We would, therefore, humbly pray that all the matters set forth in this memorandum may receive favourable consideration, and to this end we crave that His Majesty may be pleased to withhold his sanction to the Grant of the proposed Royal Charter of Incorporation to the Metropolitan Hospital Sunday Fund in its present form.

Signed, on behalf of the Metropolitan Counties Branch of the British Medical Association, and by order of the Council of the said Branch, by

HUGH R. KER, F.R.C.S. Edin.,
President of the Metropolitan Counties Branch, British Medical Association.
J. FORD ANDERSON, M.D.,
Chairman of the Medical Charities Committee of the Metropolitan Counties Branch, British Medical Association.

September 29th, 1906.

THE SPECIAL REPORT ON THE ALLEGED INCREASE OF INSANITY IN IRELAND.

THIS report is a supplement to the fifty-fourth report of the inspectors of lunatics in Ireland and is based on the lunacy statistics of the ten years 1894–1903, in the light of the census of 1901, together with special reports from the district asylums. The inspectors in a similar report in 1894 arrived at the conclusion that "the great increase of the insane under care was mainly due to accumulation and was, so far, an apparent and not a real increase." In Ireland the diminution of population from 6,500,000 in 1851 to less than 4,500,000 in 1901 makes the problem of the increase of insanity much more complex. The rise per 10,000 of the population has been from 15·2 to 56·2 but the inspectors estimate that if the population of Ireland had increased *pari passu* with that of England and Wales, the above ratio would be only 41·5 for Ireland, as compared with 40·8 in England and Wales and 45·4 for Scotland. The reduction of population having been due to the emigration of the sane, the insane population has remained and has even been increased by the return of cases of mental breakdown amongst the emigrants. The above estimate shows that even with this drawback the alleged increase closely corresponds with that of the rest of the United Kingdom.

The age periods in Ireland, as in England, give most important information in regard to the excess of recorded lunacy. Thus, in 100,000 persons living at the age period under 20 years in 1871 the proportion of lunatics was 92·4, reduced to 74·1 in 1901; in the age period 20 to 55 years the similar figures showed an advance from 517·2 to 848·5; and in the age period upwards of 55 years the advance was from 372·7 to 1062·1. Relatively to the population at large, the decrease of lunatics under 20 years was equal to the general decrease; in the middle period there was an increase of 64 per cent. and in the later period of life an increase of 185 per cent. These figures show on analysis that of the census-recorded lunatics the number per 1000 (excluding fractions) was as follows:—

	1871.	1901.
Under 20 years	135	54
From 25 to 55 years ...	694	677
55 years and upwards ...	170	289

This proves that in Ireland, as in England, there has been a proportional relative diminution in the lowest age period, a slight diminution in the middle, and a very great increase in the late age period of the lunatic population.

The first admissions to asylums have increased from 2600 in 1894 to 3332 in 1903, and this on a slightly diminished population. Unfortunately, the ages of these first admissions as a whole cannot be arrived at from this report. The superintendent of the Ballinasloe Asylum, Dr. J. Mills, states that in his admissions in 1891, 7·96 were over 60 years of age and this percentage had increased to 14·45 in 1901, an advance of 6·49. This increase if general would alone account for nearly a quarter of the excess of admissions. The inspectors also draw attention to the fact that in the last census the numbers of unofficial lunatics had diminished from 4500 in 1891 to 3420 in 1901. The balance of 1080 have been admitted to asylums as newly occurring cases. This is rendered evident by the fact that of the admissions in 1894 the disease was stated to have existed for upwards of five years in 8·3 per cent. and in no less than 11·4 in 1903. The emigrants returning insane from the United States, &c., must also have contributed to the first admissions.

The *admissions of cases* in which mental disease had *existed for less than one* year are reported as having risen *from 1807 in 1894* to 2237 in 1903, an increase of 430, these yielding a proportion per 10 000 of the estimated population at the respective periods of 3·94 and 5·07. In regard to this large increase of 28·7 per cent. the inspectors remark "that there is nothing to show that the cases of first attack were taken from the young and vigorous members of the community. As we have shown elsewhere, a large proportion of them were cases of dotage or senile decay who had never previously been insane."

The accumulation in asylums is also considered in respect to increased longevity, shown by the low death-rate, which is in part due to the small amount of general paralysis. The various causes of insanity are also dealt with, but no causes of great increase are found, the most potent factors remaining stationary or showing only such excess as may be accounted for by greater *opportunities* of inquiry. Returned emigrants, exclusive of those cared for in their own homes, furnish *no less than 1450* of the asylum population; in *connexion with this fact* attention is drawn to the large proportion of insane in the United States of Irish origin as an evidence of the greater proneness of the Hibernian Celt to *mental disease.*

The asylum superintendents who report on the question of the alleged increase of insanity in seven instances answer in the affirmative, in four in the negative, whilst in 12 no opinion is expressed.

In conclusion the inspectors state that "without venturing to affirm that there has been no increase of occurring insanity," the great numerical excess has been due to various conditions. Chief among these are the emigration of the sane, the retention of the insane, and the return of insane emigrants, the excess being mainly among the rate-supported, who accumulate in asylums from greater longevity, from the absorption of the unregistered insane, the widening of the application of the term insanity (to include the eccentric, feeble-minded, and dotard), the greater confidence in the treatment, and the greater accessibility of asylums. The conclusions to be drawn *from this report* are that the great excess in the number of *persons* classed as insane is not due to a corresponding advance in the occurrence of mental disease; and that *there* is considerable doubt whether the excess in the number of persons admitted to asylums for the first time at the present date is not entirely due to social conditions and not to an actual increase in the production of insanity.

MEDICINE AND THE LAW.

A Garbage-monger Heavily Fined.

Bertie Letch, described as a butcher and proprietor of a bullocks' head, spiced beef, and tripe shop in Salmon-lane, Limehouse, was recently fined £10, with £4 4*s.* costs, for having in his possession what may be described as an unusual quantity and variety of meat unfit for human food. The inspector, who visited his premises on a Sunday, asked him whether he had any unsound food and he replied that he had not, thereby shutting himself out from the possibility of saying afterwards that what was found was there to his knowledge and was intended for destruction, not for sale. Afterwards in a barrel the contents of which the defendant described as "all right" were found two and a half hundredweights of ox cheeks, all of which were unsound. He declared that he had nothing else upon his premises in such a condition but in a tank were three-quarters of a hundredweight of tripe and cow-heels equally unfit for human consumption and in an ice-safe were six enamelled receptacles, one of which contained spiced beef which had gone bad and the rest of which held other beef which showed traces of having been run over by rats. With the exception of a few pieces, a quantity of tripe cuttings and bullocks' hearts and cheeks found in the shop were all unsound. The Sunday trade is considerable in such a locality as that described and the inhabitants are to be congratulated upon the protection which the local authority was able to afford them through its medical officer of health, Mr. D. L. Thomas, and the inspectors working under him.

Unnecessary Noises.

The magistrates at Walton-on-Thames are to be congratulated upon having dealt firmly with a defendant summoned before them in respect of a noise nuisance which, from the description given before them, must have been of an unusually obtrusive nature. The defendant, a widow, living in King's-road, Walton-on-Thames, kept upon her premises hens spoken of as being 60 in number, two cocks, some doves, six ducks, seven cats, and three dogs. One of the complaining witnesses stated that he was a musical composer who had been unable to carry on his work properly through being deprived of his sleep and that he had also suffered from neuralgia. Another neighbour and his father, who had stayed with him, also gave evidence of a similar character. From a practical point of view those suffering from neighbours who keep noisy animals will find it advisable, if they wish to set the law in motion, to obtain the coöperation and support of as many as possible of those living within earshot. Magistrates who have before them a single witness only may regard him as a person naturally sleepless or prone to complain. The evidence of several respectable persons, all evidently desirous of putting a stop to an evil which affects them injuriously, is likely to prove irresistible. The defendant, moreover, is not likely to have many such witnesses on his side. In the case at Walton-on-Thames the defendant was fined £2 with costs amounting to £2 13*s.* 6*d.*

Kissing the Book and the Prevalence of Perjury.

His Honour Judge Edge in connexion with a recent case tried by him at Clerkenwell county court made some forcible observations upon the prevalence of perjury in courts of justice, saying that he considered it to be in the power of Parliament to do much to check it. Presumably Judge Edge would wish to see perjury dealt with more summarily than is now possible, with powers given to county court judges and others to order proceedings to be instituted against persons who appear to them to have committed the offence. Many judges of the High Court as well as county court judges deplore the frequency of perjury and neither they nor Judge Edge seem to think that the amount of "sanctity" imported into the taking of an oath by the custom of kissing a Testament contributes much towards the truthfulness of the witnesses before them. The county court judge at Clerkenwell, who may be taken to have considerable experience of unscrupulous litigants and their friends, said on the occasion referred to that persons appearing before him went into the witness-box and took the oath knowing that they were going to make statements altogether the opposite of truth; they did it knowing that there was little chance of being punished and they lied with a coolness and deliberation which was enough to stagger their hearers. Those who advocate upon sanitary grounds the substitution of a publicly spoken pledge to tell the truth for the touching of a greasy book with the lips should have support from all who desire to see perjury diminished. The probability of more or less immediate punishment combined with a more solemn manner of swearing could hardly fail to have a beneficial effect.

THE LONDON MEDICAL EXHIBITION.

(Concluded from p. 950.)

NOT less comprehensive than the exhibition of pharmaceutical preparations noticed in our last week's issue was the display of surgical and sanitary appliances, most of the leading makers being represented. Under this category may be included the "equipoise" beds, couches, and chairs exhibited by the Equipoise Company, of Ashford, Kent. The advantages of these apparatus are obvious, inasmuch as they are so arranged that the occupant can by merely bending the body and without undue exertion raise himself from the prone to the sitting position and *vice versâ*, being able to stop wherever he wishes and by means of a convenient handle the angle can be fixed. Messrs. Allen and Hanburys, Limited (48, Wigmore-street, Cavendish-square, London, W.), exhibited aseptic hospital furniture and amongst other things a new improved metal aseptic all-metal hypodermic syringe with interchangeable needles. The exhibit included surgical apparatus and some special apparatus for clinical work. Lints, sponges, gauzes, and plasters were the feature of the stall of Messrs. Johnson and Johnson (104 and 106, Golden-lane, London, E.C.). There were also on this stall sulphur and formaldehyde fumigators and antiseptic tablets. Messrs. Cuxson, Gerard, and Co. (Crown Buildings, Corporation-street, Birmingham) exhibited a well-assorted list of antiseptic and aseptic surgical dressings and appliances, including lints, wools, and gauzes, contained in cartons and compressed tablets. The Barker vibratory massage machine (Mr. James Barker, 99, Regent-street, London, W.) attracted the attention of a good many medical men. The machine is perfectly simple as regards its design and for motive power it is simply attached to an electric lamp socket. Its maximum activity is stated to be 20,000 movements per minute which can be quickly modified according to the requirements of the operator. Messrs. Southall Brothers and Barclay, Limited (Lower Priory, Dalton-street, Birmingham), exhibited their well-known sanitary towels: Full-sized towels were also shown, reduced by pressure into a very small compass. The exhibit included sanitary sheets and accouchement sets and a number of pharmaceutical preparations. Hoefftcke's appliance for fractured leg (the femur, tibia, and fibula) has already been described in our columns (C. A. Hoefftcke, Limited, 21, Woodstock-street, Oxford-street, London, W.). There were also shown an appliance for paralysis, a leather corset, and some "walking appliances." Messrs. Fassett and Johnson (31 and 32, Snow-hill, London, E.C.) exhibited an absorbent wadding known as thermogene. The exhibit included also specimens of argyrol, a powerful bactericidal silver salt free from irritating properties. A very large assortment of forceps, probes, and catheters were exhibited by Messrs. S. Maw, Son, and Sons (7 to 12, Aldersgate-street, London, E.C.). Messrs. T. Holland and Son (46, South Audley-street, London, W.) made a special feature on their stall of their well-known improved instep arch sock. Specimens also of natural shaped boots and surgical boots could be inspected. An interesting exhibit, comprising the "diagna" hospital bedstead and the "diagna" surgical bedstead, was that of Messrs. John and Joseph Taunton (Birmingham). There was also a child's anti-accident safety cot. A large assortment of specially constructed catheters, bougies, and other appliances of the kind was exhibited by Messrs. Croydon and Co. (55, Wigmore-street, Cavendish-square, London, W.). Mr. C. M. Holmquist, electrical engineer (57, Edgware-road, London, W.), showed a sunbeam semi-reclining electric-light bath and a mercury vapour lamp used for the generation of ultra-violet rays for

Finsen treatment and many other purposes. Antiphlogistine is now well known as the name of an excellent hygroscopic and antiseptic dressing prepared by the Denver Chemical Manufacturing Co. (110, Cheapside, London, E.C.). It is an admirable method for the continuous application of moist heat in all conditions in which inflammation and congestion are present. In addition to pumiline essence for use in throat, bronchial, and lung affections Messrs. Stern and Co. (Cheadle, Hulme, Manchester) exhibited inhalers for administering this pure limpid pine essence. Amongst the specialities exhibited by Messrs. F. Davidson and Co. (140, Great Portland-street, London, W.) were ophthalmic appliances and models of the eye, ear, and throat, the exhibit including a direct ophthalmic illuminator and a number of accumulators for medical use. Mr. Frank A. Rogers (327, Oxford-street, London, W.) exhibited his well-known and approved form of standard medical sprays and atomisers. An ingenious thermo-cautery for surgical work was shown by Mr. W. H. Beach (Bridgnorth, Salop), and in addition an ophthalmic thermo-cautery, a tracheotome, and a special porous medicated plaster. The O'Connor Extension Company (2, Bloomsbury-street, London, W.C.) exhibited their appliances for the lame, and as well a surgical boot to compensate for slight shortening of the leg. Close by was a new obstetric bedstead exhibited by Messrs. Isaac Chorlton and Co. (4B, Upper Thames-street, London, E.C.). An excellent assortment of up-to-date x ray and electro-therapeutic apparatus was exhibited by Messrs. Harry W. Cox, Limited (1A, Rosebery-avenue, London, E.C.), and on an adjoining stall the Seamless Rubber Company (4, Snow-hill, London, E.C.) exhibited operating and obstetrical cushions, bed-pans, and urinals, and surgical, operating, and dissecting gloves. The London Surgical Depôt (17, Little Tichfield-street, London, W.) showed a very large assortment of surgical instruments, including those employed in obstetric practice and for operations on the throat, nose, eye, and ear. The Repello clinical thermometer is now well known as an instrument which does not require shaking down in order to reset the mercurial column. Mr. Zeal, the inventor (82, Turnmill-street, London, E.C.), also exhibited an aseptic clinical thermometer. Aseptic furniture, surgical dressings, and complete outfits for aseptic surgical operations were the chief objects of interest in the exhibit of the Hospitals and General Contracts Co., Limited (33 and 35, Mortimer-street, London, W.). Besides the Hedley inhaler, Messrs. Hedley and Co. (92, Harrow-road, Leytonstone, London) exhibited specimens of their pure ethyl chloride and the same anæsthetic in conjunction with iodoform, or cocaine, or menthol, or carbolic acid. Whilst referring to anæsthetics, mention may be made of Novocain, which is described by the Saccharin Corporation, Limited (165, Queen Victoria-street, London, E.C.) as the new non-irritant local anæsthetic. Novocain is said to be six times less toxic than cocaine and two to three times less toxic than substitutes hitherto presented when given in doses producing an equal degree of anæsthesia. Chemically it is the hydrochloride of para-amino-benzoly-di-ethyl-amino-ethanol.

The foods exhibited were chiefly of a special kind, as, for example, "Miol," which is described as the new iodo-phosphated malto diastase (The Miol Manufacturing Company, 66, Southwark Bridge-road, London, S.E.) It is an easily digested oil, or rather emulsion of olive oil and malt extract, containing accurately gauged amounts of free iodine and phosphorus. It is a variant of the ordinary malt extract and cod-liver oil emulsion and evidence is furnished of its value in cases of wasting diseases and especially pulmonary tuberculosis. Messrs. Theinhardt's Food Co. (Seething-lane, London, E.C.) exhibited their soluble infants' food, the composition of which shows that it contains the elements necessary for the nutrition of the infant. Messrs. J. Reynolds and Co., Limited (Albert Flour Mills, Gloucester), exhibited what is described as a pure digestive wheatmeal and the foods prepared with it were excellent to the taste and evidently contain a complement of the nourishing materials of the berry. Modified cows' milk was the chief article exhibited on the stall of the Aylesbury Dairy Co., Limited (St. Petersburgh-place, Bayswater, W.). The farms of the company are under strict scientific supervision, the products are carefully standardised, and the milk is kept under strictly clean precautions. The Proteno Co., Limited (36, Welbeck-street, New Cavendish-street, London, W.), exhibited samples of their pure milk proteid products. Proteno is said to be an entirely British product. The exhibit included some diabetic foods. A series of starchless foods for use in diabetes and obesity was tastefully arranged on the stall of Messrs. Callard and Co. (74, Regent-street, London, W.). The foods included starchless breads, biscuits, cakes, marmalade, jam, fruits, jujubes, jellies, and beverages. Modified milk for infant feeding was the feature of Messrs. Clay, Paget, and Co.'s exhibit (71, Ebury-street, London, S.W.) There was included also a sugar-free milk adapted to the dietary of patients suffering from diabetes. There was a long list to choose from on the stall of International Plasmon, Limited, of foods enriched with plasmon as well as samples of pure plasmon itself (Farringdon-street, London, E.C.). Ovaltine (A. Wander, 24, Queen Victoria-street, London, E.C.) we have already described in our analytical columns. It contains lecithin derived from fresh eggs and is on the whole so prepared as to be a highly nutritious and palatable article of diet.

Amongst the sanitary exhibits may be included the germicidal fluid of Jeyes Sanitary Compound Co., Limited (64, Cannon-street, London, E.C.) We refer to cyllin, a non-toxic bactericide. It may now be obtained in the form of inhalant, capsules, syrup, gauze, lint, soap, and pastilles. Soap is a decidedly sanitary article of use and one of the best soaps prepared as regards its purity, economy, and detergent power is Vinolia soap of the Vinolia Company, Limited (Malden Crescent, London, N.W.). The exhibit included Vinolia cream and powder and a number of other excellent toilet products. Messrs. Doulton and Co. (Royal Doulton Potteries, Lambeth, London, S.E.) exhibited a germ-proof filter constructed of white porcelain which is stated to prevent the direct transmission of organisms. A testimonial in its favour is the fact that this filter is used for obtaining sterile filtrates in bacteriological laboratories.

Amongst the miscellaneous exhibits may be mentioned certain mineral waters. Messrs. Ingram and Royle (East Paul's Wharf, 26, Upper Thames-street, London, E.C.) exhibited in this connexion samples of Vichy water, Æsculap water, Friedrichshall water, and many other well-known mineral waters. To these may be added Perrier water derived from a natural spring at Les Bouillenes Vergeze (Gard), France. It is a pleasant water, gently sparkling with carbonic acid gas and is peculiarly soft to the taste. Samples of this water were also exhibited on the stall of the Perrier Company (45 and 47, Wigmore-street, London, W.). The water is only slightly mineralised and is antacid owing to the presence of carbonates. The Salutaris Company (236, Fulham-road, London, S.W.) exhibited both their aerated and still distilled water. Messrs. Weston and Westall (16, Eastcheap, London, E.C.) exhibited Droitwich brine crystals which when dissolved in water in prescribed proportion give a solution identical with the liquid brine used in the baths at Droitwich. In addition to sparklets for aerating water with carbonic acid gas, Messrs. Aerators, Limited (Upper Edmonton), showed an apparatus for extinguishing fire by means of carbonic acid gas and water under pressure. Messrs. Idris and Co. (Pratt-street, Camden Town, London, N.W.) exhibited a number of table waters which are now well known for their purity, the processes connected with their preparation being under strict scientific control. The exhibit included a radio-active natural Hungarian aperient water known as Igmandi water. Messrs. Gautier Frères (Cognac) exhibited their special Cognac brandy which is said to be 20 years old. We have already favourably commented upon this brandy for medicinal use in our analytical columns. Similarly we have already remarked upon the practical absence of acidity and sugar in the special whisky of Messrs. George Back and Co. (13, Devonshire-square, Bishopsgate-street, London, E.C.).

Lastly may be mentioned that the following publishers exhibited a series of medical, surgical, and scientific books: Messrs. Baillière, Tindall, and Cox (8, Henrietta-street, London, W.C.), Messrs. Constable and Co. (16, James-street, Haymarket), the W. B. Saunders Company (9, Henrietta-street, London, W.C.), Messrs. Cassell and Co. (Ludgate Hill, London, E.C.), and the Oxford University Press (Amen Corner, London, E.C.). We may add that the exhibition included what is described as an absolutely safe lamp, known as the New Petrolite Lamp (Petrolite, Limited, 106, York-road, Lambeth, London, S.E.). The lamp burns ordinary petrol which is contained in an absorbent. The flame of the petrol impinges upon an ordinary incandescent mantle. We can well believe, judging from its construction, that the lamp is safe and it should prove a great convenience for the lighting of country houses and other places where neither gas nor electricity is available.

ELECTION OF DIRECT REPRESENTATIVES UPON THE GENERAL MEDICAL COUNCIL.

WE have received the three following addresses of candidates with requests for publication:—

SIRS,—I shall be obliged by your allowing me to inform your readers and the general body of practitioners that I am a candidate for one of the three seats allotted to Direct Representatives of our profession which will become vacant in November next at the General Medical Council. This is the first occasion at these elections at which I shall have figured as a candidate for one of these seats, and I must necessarily be unknown to many of my professional brethren in the large constituency of England and Wales which comprises the electorate in this instance. But I am thankful to say that I am well known in Wales where I have been in general practice since 1871, and as I have been honoured by the confidence of the Swansea division of the British Medical Association, who have appointed me to voice them at every representative meeting since that new departure in the government of the Association was initiated at Swansea, I may fairly say that I am well known to the many gentlemen who have at its different meetings formed the *personnel* there. As a proof of this fact I may say that at the last and at the preceding representative meetings I was elected a member of the Medico-political Committee of the Association and, as a result, I have given much time and attention to the important matters which we discuss there on the subjects embraced by its title and I have also worked on the contract subcommittee of the same parent committee. For this work I consider I have had a long and fitting training, for in addition to the fact that I have always been a general practitioner, holding in my time large contract appointments, I have been the chairman of the Medical Practitioners' Association of Swansea, which has had much work to do in the control of club and dispensary practice in my town. Other offices which I have held in the British Medical Association have been those of President of its South Wales and Monmouthshire branch and Chairman of the Swansea division, and at the representative meeting held in London in July last I received what I regard as an extremely high honour—the appointment, at the hands of my fellow members, of the deputy chairmanship of the meeting. I therefore consider that I am warranted in soliciting the support of the general body of practitioners at this election on the score of past and present work. I have emphasised my position as a general practitioner, as I consider, in common with other candidates at the coming election, that a Direct Representative should be chosen from this class of medical men. Direct representation was obviously granted to us with a view to our sending to the Council men who are in touch with general practice. The consultant class are already, to my mind, too fully represented there, for the great bulk of the Council consists of representatives of the universities and qualifying corporations in the kingdom. I am in favour of an equalisation of representation of the two classes, to be obtained by some measure like that which is formulated in the Medical Acts Amendment Bill now being promoted by the British Medical Association. I am in favour of the one-portal system of final professional examinations. If I am returned at this election my votes at the Council will always be given in the direction of the suppression of quackery and towards securing to all registered medical practitioners the full rewards due to them for their work. One main reason for the existence of this body is the controlling of examinations for fitness to practise and the supervision of the same. I am in favour of raising the standard of the preliminary examinations before entering upon student life. In these days of specialising we ought to see that those who enter an intellectual profession like that of medicine have had more than a mere smattering of Arts to fit them for the severe and prolonged course of study which they are called upon to undergo after they have entered the medical schools. Finally, I hope that a very great majority of the voters entitled to the suffrage at this election will exercise that privilege when Nov[illegible] comes. Too long it has been the custom to ignore this duty and, as one who desires to see every means of advance in our calling seized when an opportunity occurs, I deplore the apathy shown in previous elections. At the last one I learn that only about half the number of voters on the list exercised their right to secure the return of candidates. Let me venture to express a hope that in November next at least 90 per cent. will vote and that, as a result of that vote, I may secure the honour of being one of the three Direct Representatives for England and Wales.

I am, Sirs, yours faithfully,
H. A. LATIMER, M.D. Durh., M.R.C.S. Eng.,
L.S.A. Lond.
Swansea, Oct. 9th, 1906.

SIRS,—For the election of three Direct Representatives to the General Medical Council, to take place in November, I have been urged to offer myself as one of the candidates. A strong feeling has been expressed that there should be additional general practitioners on the Council in order to bring that body more into touch with the needs of the medical profession throughout the country than it is at present. I have therefore consented to stand.

I am a graduate of the Royal University of Ireland and have been for 21 years a general practitioner and for the last 17 years have been a member of the health committee of the Battersea borough council. I was elected a delegate for that borough to the Health Congress at Exeter and also to the International Congress on Tuberculosis held in London. I am familiar with club, contract, and dispensary work and, knowing only too well how we are sweated in these directions, I have, and would again, support any duly considered scheme which would enable us to obtain fair payment for our services.

I am in favour of adequate remuneration for medical men called in under the Midwives Act, and will persistently urge the General Medical Council, if elected by you, to petition the Privy Council for a prompt amendment of the Midwives Act in that direction. Also in the revision of the rules of the Midwives Board will see that due regulations are prepared to prevent registered midwives persistently canvassing, advertising, and covering, as is at present done in many districts, to the detriment of the general practitioner. I will support alteration in the lunacy laws, which are at present antiquated, reactionary, and in many cases injurious to the patient. I will strongly support alterations in the Coroners Act, so as to obtain proper remuneration for services rendered by general practitioners and pathologists, and to prevent any interpretation making it possible for the local profession to be ignored in favour of the latter. I will support an Inebriates Act, by which those suffering from alcoholism and the drug habit can be saved from themselves.

I am in favour of nurses' registration, so as to prevent, to the detriment of the public, certain persons masquerading in nurse's dress, but would see that the general practitioner is adequately represented on the central and all local boards formed for their control. I would urge revaccination with a proper supply of free Government lymph. I would support security of tenure for medical officers of health, public vaccinators, and holders of all similar public medical appointments. I would be in favour of registration with regard to all patent and secret remedies so as to compel the vendor to state the ingredients and quantities on the label.

I am in favour of hospital reform and will support adequate representation of the general practitioner of charitable funds for the same, feeling that in this way many of the present difficulties will be disposed of. I have been twice a representative at the representative meeting of the British Medical Association and have been elected for two years on the Medico-Political Committee.

I am strongly of the opinion that the interests of the public and the general practitioner are identical, and that by further extension of the powers already possessed by the General Medical Council in the above directions they will be in reality carrying out the spirit of the Medical Acts. If elected I will faithfully endeavour to work for the interests of the general practitioners and should at all times be pleased to keep in touch with their wishes.

I am, yours faithfully,
LEONARD STRONG MACMANUS.
Mayo House, Spencer Park, Wandworth
Common, S.W., Oct. 8th, 1906.

SIRS,—The selection of Direct Representatives for the General Medical Council will shortly take place. There are more than 20,000 general practitioners in England and Wales and they ought to make their influence felt in the General Medical Council by electing Representatives from their own ranks. The Council at present is composed almost entirely of gentlemen who are consultants or professors representing the various Universities, corporations, or schools, no doubt of great excellence, but who, *ipso facto*, can have but little sympathy with the trials and difficulties of the rank and file of the profession.

I have been throughout my medical career a general practitioner, and in addition to the varied experiences as such have held the appointments of district medical officer, *public vaccinator, club surgeon*, and am at present medical officer of health, and a certificated factory surgeon. I have been chairman of the Altrincham division, and for many years a member of the council of the Lancashire and Cheshire branch of the British Medical Association, and I am a member of committee of the International Medical Congress, having represented various bodies at the congresses of Moscow, Paris, Madrid, and Lisbon. I think I may justly claim that there is nothing influencing the life of a general practitioner that I am not practically and personally conversant with.

There is no doubt that the legislation of the past 20 years has decreased by at least one-third the earning power of the general practitioner and in this direction I was strongly opposed to the recent Midwives Act and am equally so as regards the State registration of nurses, considering that both these measures place in the field unqualified practitioners who directly compete with and undersell the medical men. I consider drastic treatment is required in regard to prescribing by chemists, sale of patent medicines, bone-setters, and other quacks in which respects this country *is so far behind* continental nations.

Finally, as one of the first who received his education at Epsom College, as the son of a medical man and the father of two, I feel that I have strong claims on the regard and support of my profession, which I now ask for, but more especially do I appeal to the general practitioners of England and Wales to elect one from among their own number.

I am, Sirs, yours faithfully,

CHARLES J. RENSHAW, M.D.,
M.R.C.S., F.F.P.S. Glasg., M. & L.S.A.

Ashton-on-Mersey, Oct. 9th, 1906.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Oct. 11th, 1828.

DR. STEWART wished to know, seeing many accoucheurs present, whether there was any foundation for supposing that surprise, desire, or any emotion of the mind of a mother, could have any influence or effect on her child in utero. The subject had been a good deal before the public of late, through the medium of the newspapers. Should it be ascertained, that children could be born with their father's name, for instance, distinctly written in their eyes, or on their foreheads, this might produce a very serious result as to a number of those yet unborn. (Laughter.)

MR. WALLER considered the notion to be wholly without foundation; first, because of there being no nervous communication between the mother and child; secondly, because many women were frightened, and had desires of different sorts, whose children were born without any marks; and, thirdly, because marks were found upon fœtuses at all periods of gestation, and where no particular emotions of the mind could be distinctly traced to have occurred in the mother.

Several Members spoke on this subject, and many cases of marked children were brought forward; some of them ludicrous enough. A woman, for instance, *on the day before her delivery of a nine months'* child, was frightened by a sailor mendicant raising the stump of his right arm before her, the arm having been amputated, and *the child was born without its right arm!* A goose ran cackling at another woman, a month before her confinement, and the child, though the mother denied having been frightened, was *web-fingered!* Another child had the figure of a *mouse* on its face, and whenever a cat entered the room, that part of the image on the face which was considered to be the mouse's *tail, curled up!* (Great laughter.) The conclusion was, that the fact of children being born with these marks, is indisputable, but that the cause which produces them is involved in profound mystery.[1]

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On an Outbreak of Enteric Fever associated in Some Cases with Cerebro-spinal Symptoms at Fincham, by Dr. R. A. FARRAR.[2]—Between October, 1905, and March, 1906, some 33 persons in the village of Fincham, near Downham, in Norfolk, were attacked by the epidemic which forms the subject of this report. The population of Fincham is only about 530, so that relatively the outbreak was one of considerable severity. Many of the patients suffered severely and four deaths occurred. Of the 33 cases 12 occurred in adjacent houses in Banyard's Yard, one of these houses being that of a milkman, L., who had himself been ill, together with six members of his family. L. seems to have been the first person in the village to be affected. His attack was not severe enough to keep him to his bed and for three weeks in November he continued, though feverish and ill, to carry on his milk business. This consisted in personally milking two cows and distributing the milk to some 20 households. 11 of these households were subsequently attacked by the epidemic and out of 21 cases not living in Banyard's Yard at least 14 seem to have taken L.'s milk. The well in Banyard's Yard, the water of which was used by the inhabitants for drinking and by L. for washing his milk utensils, was obviously liable to pollution from household slops which had been thrown on to the surface of the yard or which had soaked into the soil near the well in consequence of the yard drains or gullies becoming blocked. Chemical analysis of the water gave evidence of considerable, and probably recent, sewage contamination, and the bacillus coli was present in 1 cubic centimetre. Dr. Farrar considers it probable that the well water became specifically infected (possibly by some visitors from Poplar to Banyard's Yard in August); that the Banyard's Yard cases were attributable to the infected drinking water; and that most of the remaining cases in Fincham were infected by L.'s milk which came from pails washed with water from the same well. The doubt which existed as to the nature of the epidemic was resolved by post mortem examination in two instances in which typical ulceration was found and the bacillus typhosus was recovered in pure culture from the spleen, and by a series of agglutination tests. Dr. Mervyn H. Gordon tested the blood in 25 cases. In all these cases, when a sufficient interval had elapsed since the onset of the illness, agglutination developed in a dilution of 1 in 20, and in many of the cases the reaction appeared within half an hour with much greater dilutions. The unusual feature of the epidemic was that while certain of the cases, particularly those occurring late in the epidemic, clinically were typhoid fever of ordinary types, others, including some which were severe or fatal, were distinguished by the early appearance and persistence of cerebro-spinal symptoms. In some instances the onset of the disease was marked by severe pain in the head, neck, and spine. Opisthotonos, spinal hyperæsthesia, Kernig's sign, and tache cérébrale were noted in several of the cases which Dr. Farrar describes. The epidemic, indeed, was originally regarded and reported as one of cerebro-spinal meningitis by Mr. G. B. Masson, who attended the Fincham cases, and Dr. Farrar, after giving an account of the cases in question, concluded that on clinical grounds alone there was ample warrant for this diagnosis. Dr. Gordon searched for Weichselbaum's micrococcus in nasal swabs taken from many of the patients but with negative results. In describing an outbreak simulating influenza in Hertfordshire in 1905 Dr. R. A. Dunn and Dr. Gordon laid stress on the presence of the micrococcus catarrhalis and its differentiation from the micrococcus of cerebro-spinal meningitis, and it is interesting to note that in certain of the Fincham cases the micrococcus catarrhalis *was present* in nasal swabs and that in one instance this micrococcus was recovered from the cerebro-spinal fluid after death. The presence of the micrococcus catarrhalis, however, was established in certain cases where the enteric fever was of ordinary type as well as in others in which cerebro-spinal symptoms were strongly marked.

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[1] Excerpt from the proceedings of the London Medical Society, Oct. 6th, [illegible].

[2] London: Wyman and Sons, Fetter-lane. Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. No. [illegible], price [illegible].

On the Sanitary Circumstances and Administration of the Borough of Haverfordwest and upon Recent Prevalence of Enteric Fever therein, by Mr. G. C. HANCOCK [3]—This report gives an interesting account of a detailed inquiry into the causes of a small epidemic of enteric fever in the borough of Haverfordwest, in Pembrokeshire (population 6000) 38 cases of this disease, of which 19 were children under 10 years of age, occurred between November, 1905, and February, 1906. A few single cases had been reported in the town during the previous summer and autumn. After reviewing the distribution of cases, milk-supplies, water-supplies, opportunities of personal infection, and like matters, Mr. Hancock found that it was impossible definitely to attribute the outbreak to any one cause. The total of cases was too small, in fact, to permit of differential observations in regard to a variety of conditions any one of which might have been concerned in producing an epidemic of enteric fever. Nearly all the cases occurred in households supplied by one out of the three separate water services of Haverfordwest. This supply, from a well at Crowhill, is the most important of the three, and serves about two-thirds of the town. The Crowhill supply cannot be regarded as free from opportunity of dangerous pollution. Such opportunities exist at the well itself and also in connexion with the distributing system. Haverfordwest has the dangerous combination of ball hydrants with an intermittent supply which is well known to permit insuction of polluting matters into the mains. The milk-supply also came under suspicion. A single farm, obtaining water from a polluted shallow well, supplied the milk used in seven of the invaded dwellings, in which 20 cases of enteric fever occurred. The total number of households supplied with milk from this farm was only 70, so that the incidence on the consumers of the milk was quite exceptional. Cases of enteric fever occurred at the farm during November and December. In other instances various opportunities were afforded of personal and local infection on account of absence of means of isolation and prevalent insanitary conditions. Among the latter Mr. Hancock draws attention to the numerous "hand-flushed" water-closets, objectionable privy middens, and faulty system of refuse removal. A series of practical recommendations to the town council as to improvements in the sanitary state of the borough is appended to the report.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH.

County Borough of Newport (Mon.).—Dr. J. Howard-Jones is apparently somewhat anxious with reference to the water-supply of this district and sources of probable pollution were discovered on certain of the gathering grounds during 1905; so real do these dangers appear to have been that the corporation bought considerable areas of ground with a view to diminish the risk. Dr. Howard-Jones is clearly of opinion that an efficient scheme of filtration ought to be introduced and the corporation will do well, before rejecting his advice, to pass over in its mind certain recent events which have occurred in South Wales illustrating the importance of the thorough filtration of drinking water. During the spring months, from April to June, the water in the reservoirs has not infrequently been complained of owing to an "objectionable fishy smell," such smell being most apparent in the mains which have a sluggish flow, and efforts have been recently made to destroy the "algæ" which are believed to give rise to the smell by treating the water with copper sulphate, a process which is said to have been followed by good results in America. In order to produce a solution of this salt of 1 in 1,000,000, ten pounds of the sulphate were required for every 1,000,000 gallons of water. The sulphate was divided into 28 pound bags, 28 of which were tied to a large raft 30 feet wide, which was towed over the surface of the reservoir. After treatment in this fashion a small white flocculent coagulum consisting of vegetable albumin coagulated by the cupric sulphate solution was observed and this gradually sank. The water rapidly cleared and after frequent testing was, at the end of a week, again delivered to the public free from any appreciable traces of copper. Other reservoirs were treated in somewhat the same fashion and satisfactory results were obtained. These facts may be of interest to other medical officers of health who have similar trouble with the water-supply of their district.

County Borough of Salford.—Mr. C. H. Tattersall followed during 1905 the practice which has already been adopted in certain circumstances at other places of discharging scarlet fever convalescents while still desquamating, the patients having been discharged at the end of four weeks or as soon afterwards as their general condition rendered it permissible. But patients with otorrhœa or rhinorrhœa were retained until they were "convalescent." Of the 677 scarlet fever patients discharged during 1905, as many as 418 were still desquamating. In relation to the discharge of these 418 cases there were 29 so-called "return" cases, or 6·9 per cent., whereas in connexion with the remaining 259 who were only liberated when their desquamation was completed there were 32 cases, or an incidence of 12·4 per cent. of "return" cases. As Mr. Tattersall observes, these figures for "return" cases are very high, but he points out the very necessary fact for a due comprehension of the figures that he has included under the term "return" cases those which occurred so long as seven weeks after the return of the first case. Limiting the figures to those cases which occurred within three weeks of the home-coming of the primary case the incidence in connexion with the desquamating cases was 7 per cent. and with the desquamated cases 10 per cent. Mr. Tattersall apparently infers from these figures that "it is again proved that we are quite correct in neglecting entirely the presence or absence of desquamation as an indication of the presence or absence of infection. This is further confirmed by the fact that, although so many cases were discharged desquamating, there is a slight reduction in the percentage of cases." He adds that all the "return" cases were carefully inquired into and the primary cases examined, with the result that in 18 per cent. of such primary cases nasal discharge and in 8·2 per cent. ear discharge was present. In the remaining 73·8 per cent. no explanation to account for the "return" cases could be discovered. These results appear to be materially different from those which occurred in connexion with *desquamating* cases of scarlet fever discharged from the Leicester and Southampton isolation hospitals and it might be instructive to make an investigation of the whole group.

City of Bristol.—The corporation of this city has made, with the consent of the Local Government Board, a capital contribution of £5000 to the Winsley Sanatorium for Consumption, for which sum it has purchased a capital share in the institution to the extent of 20 beds at a cost of £250 per bed, the annual contribution for maintenance of patients amounting to £65 per bed. During 1905 there were 171 applications for the corporation beds and of this number 65 were "selected" and "admitted." Of these, 45 were discharged, their state on discharge being as follows: much improved, 28; little improved, 11; and not improved, six. It is to be hoped that Dr. D. S. Davies, the medical officer of health of Bristol, will year by year record the after-history of the Bristol patients discharged from the sanatorium and in such fashion as to indicate the money value of the work which each patient is year by year performing. Independent testimony of this nature is much to be desired in order that records having some *scientific* value may be collected. Dr. Davies furnishes an instructive table showing the hospital accommodation for cases of infectious diseases provided by certain large towns and as the data are valuable for reference this table is reproduced:—

—	Population, 1903.	No. of City hospital beds.
Liverpool	716,810	925*
Manchester	553,488	560
Birmingham	533,039	809
Leeds	443,559	540
Sheffield	425,528	424
Bristol...	338,895	190

* Shortly to be increased to 1200.

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[3] Ibid., No. 239, price 6d.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7809 births and 5192 eaths were registered during the week ending Oct. 6th. he annual rate of mortality in these towns, which had eclined in the four preceding weeks from 22·3 to 17·4 per 000, further declined last week to 17·1. During the 13 eeks of last quarter the death-rate in these towns averaged 6·2 per 1000; the rate during the same period in London id not exceed 15·4. The lowest death-rates in the 76 towns uring the week under notice were 5·4 in Hornsey, 7·9 in eading, 9·3 in King's Norton, and 10·0 in Croydon; the ates in the other towns ranged upwards to 25·0 in ynemouth, 25·6 in Wigan, 27·1 in Merthyr Tydfil, and 0·4 in Stockport. The 5192 deaths in the 76 towns howed a further decline of 98 from the high numbers eturned in recent weeks, and included 1027 which were eferred to the principal epidemic diseases, against numbers declining from 2570 to 1354 in the four previous weeks; of these, so many as 775 resulted from diarrhœa, while 63 were referred to "fever" (principally enteric), 61 to diphtheria, 49 to measles, 43 to whooping-cough, 36 to scarlet fever, and not one to small-pox. The deaths from these epidemic diseases were equal to a mean annual rate of 3·4 per 1000 in the 76 towns, while the rate in London did not exceed 2·9. These epidemic diseases caused no death last week in Hastings, and the annual death-rate therefrom was less than 1 per 1000 in West Bromwich and in Smithwick, while it ranged upwards in the other towns to 8·5 in West Hartlepool, 9·7 in Wallasey, and 9·8 in Warrington. The deaths referred to diarrhœa (mainly of infants under one year of age), which had declined from 2342 to 1137 in the four preceding weeks, further fell last week to 775; the highest annual rates from this disease during the week were 6·1 in Bolton and in Burnley, 6·7 in Preston, 7·1 in West Hartlepool, 8·7 in Wallasey, and 9·8 in Warrington. The 63 deaths referred to "fever" showed a further increase, and considerably exceeded the number returned in any previous week of this year; they included 12 in London, six in Liverpool, four in Sheffield, and three each in West Ham, Bristol, Nottingham, Birkenhead, Bradford, Leeds, and Hull. Diphtheria showed the largest proportional fatality in Halifax and Walthamstow; measles in Newcastle-on-Tyne, Oldham, and Norwich; and whooping-cough in Swansea. No case of small-pox was under treatment in the Metropolitan Asylums hospitals during the week, no case of this disease having been admitted thereto since the end of June. The number of scarlet fever cases under treatment in the Metropolitan Asylums hospitals and in the London Fever Hospital, which had increased in the five preceding weeks from 3042 to 3368, further rose to 3603 during the week under notice; 621 new cases were admitted to these hospitals during the week, against 440, 473, and 533 in the three previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 149 and 133 in the two previous weeks, rose again last week to 188, and exceeded by 27 the corrected average in the corresponding week of the four preceding years, 1902-05. The causes of 42, or 0·8 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified last week in Leeds, Bristol, West Ham, Newcastle-on-Tyne, and in 47 other large towns; the proportion of uncertified deaths showed, however, a considerable excess in Birmingham, Liverpool, Sheffield, Bradford, and in several other smaller towns.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 16·1 per 1000 in each of the two preceding weeks, rose to 17·2 in the week ending Oct. 6th and exceeded by 0·1 the mean rate during the same week in the 76 English towns. The rates in the eight Scotch towns last week ranged from 13·6 and 13·9 in Perth and Leith to 18·4 in Glasgow and 20·6 in Dundee. The 583 deaths in the eight towns showed an increase of 25 upon the number returned in each of the two preceding weeks, and included 77 which were referred to the principal epidemic diseases, against 136, 122, and 104 in the three previous weeks. These 77 deaths were equal to an annual rate of 2·2 per 1000, which was 1·2 below the rate from the same diseases in the 76 English towns. Of these 77 deaths, 49 resulted from diarrhœa, 11 from "fever," nine from whooping-cough, four each from measles and scarlet fever, and not one either from small-pox or measles. The deaths referred to diarrhœa in the Scotch towns further declined to 49, from 104, 87, and 82 in the three previous weeks, but exceeded the number in the corresponding week of last year by 12; they included 26 in Glasgow, nine in Dundee, and four each in Edinburgh and Leith. Seven of the nine fatal cases of whooping cough occurred in Glasgow, as did eight of the 11 deaths referred to "fever," of which four were certified as cerebro-spinal meningitis. Of the four deaths from diphtheria three were returned in Glasgow and one in Edinburgh; while scarlet fever caused two deaths in Dundee and one each in Edinburgh and Aberdeen. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 66 in each of the two preceding weeks, were 72 last week, and exceeded by seven the number returned in the corresponding week of last year. The causes of 20, or 3·4 per cent., of the deaths registered during the week were not certified; the mean proportion of uncertified deaths in the 76 English towns during the same week did not exceed 0 8 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 29·4, 28·8, and 24·5 per 1000 in the three preceding weeks, rose again to 26·0 in the week ending Oct. 6th. During the 13 weeks of last quarter the death-rate in the city averaged 21·4 per 1000, the mean rate during the same period being only 15·4 in London and 13·1 in Edinburgh. The 189 deaths of Dublin residents during the week under notice showed an increase of 11 upon the number in the previous week, and included 32 which were referred to the principal epidemic diseases, against numbers declining from 52 to 37 in the four preceding weeks; these 32 deaths were equal to an annual rate of 4·4 per 1000, the death-rate during the week from the same diseases being only 2·1 in London and 0·9 in Edinburgh. Of these 32 epidemic deaths in Dublin no fewer than 31 resulted from diarrhœa, corresponding with the number in the previous week, the other of these deaths being a fatal case of whooping-cough. No death in Dublin was referred last week to "fever," diphtheria, scarlet fever, measles, or small-pox. The deaths both of infants and of elderly persons again showed a considerable excess. Three inquest cases and four deaths from violence were registered; and 69, or 36·5 per cent., of the deaths occurred in public institutions. The causes of four, or 2·1 per cent., of the deaths registered during the week were not certified.

VITAL STATISTICS OF LONDON DURING SEPTEMBER, 1906.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 9·0 per 1000 of the population, estimated at 4,721,217 persons in the middle of the year. In the three preceding months the rates had been 7·6, 7·7, and 6·8 per 1000 respectively. The lowest rates last month were recorded in Kensington, Chelsea, the City of Westminster, Stoke Newington, and Holborn; and the highest rates in Paddington, Bethnal Green, Southwark, Bermondsey, Battersea, and Deptford. The prevalence of scarlet fever showed a marked increase over that recorded in the preceding months; this disease was proportionally most prevalent in Paddington, Shoreditch, Bethnal Green, Southwark, Bermondsey, Deptford, and Greenwich. The Metropolitan Asylums hospitals contained 3360 scarlet fever patients at the end of last month, against 2705, 2998, and 3012 at the end of the three preceding months; the weekly admissions averaged 461, against 354, 395, and 338 in the three preceding months. Diphtheria was also considerably more prevalent than it had been in August; the greatest proportional

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING SEPTEMBER, 1906.

(*Specially compiled for* THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1906.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.											Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON...	721,217	—		621	—	194	—	15	459	1	3254	9·0	—	33	27	53	68	—	27	—	1502	1710	4·7	6205	17·1	249
West Districts.																										
Paddington	148,913	—	96		—	4	—	—	11	—	139	12·2	—	—	—	3	1	—	1	—	43	48	4·2	157	13·7	248
Kensington	180,952	—	42	8	—	2	—	1	14	—	67	4·8	—	4	1	1	1	—	—	—	46	63	3·8	190	13·7	259
Hammersmith	120,679	—	30	19	—	1	—	2	6	—	58	6·3	—	—	—	4	1	—	—	—	46	51	5·5	178	19·2	329
Fulham	161,965	—	63	11	—	2	—	—	14	—	90	7·2	—	1	2	2	6	—	2	—	97	110	8·9	236	19·0	332
Chelsea	74,672	—	26	2	—	—	—	—	4	—	32	5·6	—	1	—	—	2	—	—	—	25	28	4·9	87	15·2	254
City of Westminster	173,905	—	33	13	—	7	—	—	3	—	56	4·2	—	1	—	2	—	—	—	—	20	23	1·7	162	12·1	186
North Districts.																										
St. Marylebone	123,580	—	1	10	—	6	—	—	13	1	61	6·2	—	4	—	1	1	—	—	—	20	26	2·6	141	14·3	106
Hampstead	89,633	—	27	7	—	4	—	—	4	—	42	6·1	—	—	1	—	—	—	1	—	13	15	2·2	64	9·3	169
St. Pancras	236,455	—	81	17	—	11	—	—	14	—	123	6·8	—	—	1	3	—	—	—	—	49	53	2·9	283	15·6	204
Islington	344,937	—	133	43	—	30	—	—	26	—	232	8·8	—	—	6	1	6	—	4	—	89	106	4·0	446	16·9	275
Stoke Newington	53,217	—	10	5	—	1	—	—	3	—	19	4·7	—	—	—	—	—	—	—	—	13	13	3·2	41	10·0	214
Hackney	230,721	—	105	28	—	9	—	1	25	—	168	9·5	—	—	1	3	6	—	—	—	70	80	4·5	277	15·7	194
Central Districts.																										
Holborn	55,805	—	6	9	—	2	—	—	4	—	21	4·9	—	—	—	—	1	—	—	—	6	7	1·6	82	19·2	116
Finsbury	97,466	—	5	22	—	1	—	1	12	—	81	10·8	—	—	1	—	3	—	—	—	40	44	5·9	158	21·1	264
City of London	21,367	—	9	1	—	3	—	—	2	—	15	9·2	—	—	1	1	—	—	—	—	3	5	3·1	31	18·9	105
East Districts.																										
Shoreditch	116,103	—	64	7	—	5	—	2	22	—	100	11·2	—	—	2	1	1	—	1	—	66	71	8·0	212	23·8	367
Bethnal Green	130,609	—	72	24	—	10	—	2	24	—	132	13·2	—	1	2	—	2	—	2	—	44	51	5·1	218	21·8	274
Stepney	307,176	—	141	58	—	15	—	—	48	—	262	11·1	—	6	1	2	3	—	3	—	143	158	6·7	512	21·7	261
Poplar	170,673	—	54	22	—	9	—	—	21	—	106	8·1	—	10	—	2	2	—	2	—	65	81	6·2	251	19·2	288
South Districts.																										
Southwark	209,143	—	209	44	—	22	—	—	43	—	318	19·9	—	—	3	3	6	—	3	—	79	94	5·9	340	21·2	271
Bermondsey	128,629	—	97	18	—	8	—	—	19	—	142	14·4	—	2	1	2	1	—	1	—	54	61	6·2	212	21·5	274
Lambeth	315,774	—	83	34	—	4	—	—	30	—	151	6·2	—	1	2	7	3	—	2	—	89	104	4·3	426	17·6	221
Battersea	179,622	—	123	27	—	11	—	1	16	—	178	12·9	—	—	—	2	8	—	—	—	50	60	4·4	222	16·1	227
Wandsworth	273,381	—	75	36	—	6	—	2	14	—	133	6·3	—	—	1	2	3	—	1	—	62	69	4·2	345	16·5	278
Camberwell	274,132	—	105	26	—	3	—	1	32	—	167	7·9	—	1	—	3	5	—	2	—	103	114	5·4	361	17·2	285
Deptford	115,495	—	61	42	—	6	—	—	14	—	123	13·0	—	1	—	3	2	—	2	—	43	51	5·8	170	19·2	272
Greenwich	105,350	—	62	21	—	4	—	—	7	—	94	11·6	—	—	1	3	—	—	—	—	23	27	3·3	107	13·2	165
Lewisham	148,463	—	50	19	—	4	—	—	11	—	84	7·4	—	—	—	1	2	—	—	—	38	41	3·6	159	14·0	226
Woolwich	127,345	—	31	20	—	3	—	2	3	—	59	6·0	—	—	—	1	2	—	—	—	43	46	4·7	137	14·0	209
Port of London	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

prevalence of this disease was recorded in Paddington, Finsbury, Bethnal Green, Stepney, Southwark, and Deptford. The number of diphtheria patients under treatment in the Metropolitan Asylums hospitals, which had been 782, 878, and 834 at the end of the three preceding months, had risen again to 844 at the end of last month; the weekly admissions averaged 130, against 114, 135, and 111 in the three preceding months. Enteric fever continued to show an increasing prevalence last month; among the various boroughs this disease was proportionally most prevalent in Islington, the City of London, Bethnal Green, Southwark, Bermondsey, and Battersea. There were 139 enteric fever patients under treatment in the Metropolitan Asylums hospitals at the end of last month, against 93, 99, and 103 at the end of the three preceding months; the weekly admissions averaged 23, against 20, 15, and 16 in the three preceding months. Erysipelas was proportionally most prevalent in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, Bermondsey, and Deptford. The 15 cases of puerperal fever included two belonging to Hammersmith, two to Shoreditch, two to Bethnal Green, two to Wandsworth, and two to Woolwich.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in public institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the four weeks ending Sept. 29th the deaths of 6205 persons belonging to London were registered, equal to an annual rate of 17·1 per 1000 of the population; in the three preceding months the rates had been 11·9, 11·3, and 15·8 per 1000. The death-rates last month ranged from 9·3 in Hampstead, 10·0 in Stoke Newington, 12·1 in the City of Westminster, 13·2 in Greenwich, and 13·7 in Paddington and Kensington, to 21·1 in Finsbury, 21·2 in Southwark, 21·5 in Bermondsey, 21·7 in Stepney, 21·8 in Bethnal Green, and 23·8 in Shoreditch. The 6205 deaths from all causes in London last month included 1710 which were referred to the principal infectious diseases; of these, 33 resulted from measles, 27 from scarlet fever, 53 from diphtheria, 68 from whooping-cough, 27 from enteric fever, and 1502 from diarrhœa. Among the metropolitan boroughs these diseases caused the lowest death-rates in the City of Westminster, St. Marylebone, Hampstead, St. Pancras, Stoke Newington, and Holborn; and the highest rates in Fulham, Finsbury, Shoreditch, Stepney, Poplar, Southwark, and Bermondsey. The 33 deaths from measles were 16 below the corrected average number in the corresponding periods of the four preceding years; this disease was proportionally most fatal in Kensington, St. Marylebone, Stepney, Poplar, and Bermondsey. The 27 fatal cases of scarlet fever showed a decline of seven from the corrected average number; among the various metropolitan boroughs the greatest proportional mortality from this disease was recorded in Fulham, Islington, the City of London, Shoreditch, Bethnal Green, and Southwark. The 53 deaths from diphtheria were equal to the average number in the corresponding weeks of the four preceding years; diphtheria was proportionally most fatal in Paddington, Hammersmith, the City of London, Lambeth, Deptford, and Greenwich. The 68 fatal cases of whooping-cough were slightly below the corrected average; among the various metropolitan boroughs the highest death-rates from this disease were recorded in Fulham, Chelsea, Hackney, Finsbury, Southwark, and Battersea. The 27 deaths from enteric fever were 17 fewer than the average for the corresponding periods of the four preceding years; the greater proportional mortality from this disease occurred in Fulham, Islington, Bethnal Green, Poplar, Southwark, and Deptford. The 1502 fatal cases of diarrhœa were 805 in excess of the average; among the various metropolitan boroughs this disease was proportionally most fatal in Hammersmith, Fulham, Finsbury, Shoreditch, Stepney, and Bermondsey. In conclusion, it may be stated that, owing to the excessive fatality of diarrhœa, the aggregate mortality from these principal infectious diseases in London last month was as much as 77 per cent. above the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 243 per 1000. The lowest rates of infant mortality were recorded in the City of Westminster, St. Marylebone, Hackney, Holborn, the City of London, and Greenwich; and the highest rates in Hammersmith, Fulham, Chelsea, Shoreditch, Poplar, Wandsworth, and Camberwell.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon P. E. Maitland, lent for three months' study at West London Hospital. Staff Surgeons: H. W. B. Shewell to Bermuda Hospital; E. S. Reid to the *Egmont*, for the *Maine;* H. Huskinson to the *Calypso;* G. Gibson to the *Virid*, for Pembroke Dockyard; and P. W. MacVean to the *Topaze.* Surgeons: W. W. Keir to R.M.L.I. Division, Portsmouth; R. R. Horley to the *Vernon*, for the *Furious;* C. R. Nicholson to the *Egmont;* E. D. Rutherford to the *Duncan;* and T. D. Liddle to the *Sapphire*, for the *Sapphire II.* Civil Practitioner M. McDonough to be Surgeon and Agent at Costello Bay.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J. V. Salvage, Tidworth, is appointed Sanitary Officer, Eastern Command. Lieutenant-Colonel E. L. Maunsell has left the Southern Command for South Africa. Major M. P. C. Holt, D.S.O., at Woolwich, is appointed Assessor for Junior Examinations in Military Surgery. Lieutenant R. J. C. Thompson is ordered for duty in South Africa. Lieutenant-Colonel James Maconachie, Edinburgh, from temporary half-pay, retires on retired pay (dated Oct. 10th, 1906).

INDIAN MEDICAL SERVICE.

The King has approved of the following admissions to the Indian Medical Service:—To be Lieutenants (dated Feb. 1st, 1906): Harry William Pierpoint, Khandu Ganpatrao Gharpurey, William David Henderson Stevenson, Henry Patullo Cook, Percy Strickland Mills, William James Fraser, Desmond Charles Villiers FitzGerald, Charles Richard O'Brien, Robert Siggins Kennedy, Bernard Higham, Charles Aubrey Godson, Reginald Henry Lee, Norman Halliburton Hume, Greer Edmund Malcomson, Patrick Hefferman, William Anderson Mearns, Henry Stewart Hutchison, Duncan Macdonald Cochrane Church, Robert George Gibbon Croly, Stanley Trefusis Crump, William Barbour Alexander Kennedy Cullen, and James MacGregor Skinner.

His Majesty has also approved the transfer to the temporary Half-pay List of the undermentioned officer:—Captain Laurence Rundall (dated Sept. 17th, 1906).

IMPERIAL YEOMANRY.

Yorkshire Hussars (Alexandra, Princess of Wales's Own): Surgeon-Lieutenant W. H. Cheetham to be Surgeon-Captain (dated Oct. 6th, 1906).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Newcastle-on-Tyne: *Frank Hawthorn to be Surgeon-Lieutenant* (dated Oct 6th, 1906).

Rifle: 1st Volunteer Battalion the Prince of Wales's Own (West Yorkshire Regiment): Surgeon-Major F. Shann to be Surgeon-Lieutenant-Colonel (dated Oct. 6th, 1906). *1st Volunteer Battalion the Prince Albert's* (Somersetshire Light Infantry): Surgeon-Major J. M. Harper is borne as Supernumerary whilst holding the appointment of Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Cornwall and Somerset Volunteer Infantry Brigade (dated Oct. 10th, 1906). 1st *Lanarkshire Volunteer Rifle Corps:* Arthur Innes to be Surgeon Lieutenant (dated Oct. 10th, 1906).

THE LATE BRIGADE-SURGEON-LIEUTENANT-COLONEL A. CROMBIE, C.B., M.D., I.M.S. (RETIRED).

The *announcement of the* death of this well-known officer, which occurred on Sept. 29th, was the occasion of much sorrow and regret among his wide circle of *friends* and acquaintances, professional and otherwise. We have in another column given an account of Dr. Crombie's life and work and in this place have only to state very briefly the facts and dates connected with his official record of services. *He* was the youngest son of *David* Gaillan Crombie, of Kilminning, Fifeshire, and entered the service as an assistant surgeon in March, 1872, being promoted surgeon in July, 1873, surgeon-major in March, 1884, *surgeon-lieutenant-colonel* in March, 1892, brigade-surgeon-lieutenant-colonel in *August*, 1898, *retiring* in 1899. He was employed for some years at the India Office and represented it during the South African war at the *Medical Department*, War Office, where much hard and responsible work was done for a long period. For his services he was awarded a C.B. Apart from his professional attainments, which were of a high order, his long and distinguished services and traits of character gained him the esteem and respect of all with whom he had to do.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

The winter classes commenced on Oct. 3rd at the Artists Rifle Volunteers headquarters, Hyde Park-square, W. Congratulations are due to Surgeon-Colonel P. B. Giles, senior medical officer, on account of the excellent muster of all ranks present, especially when it is remembered that most metropolitan corps have considerably fallen off in numbers. One class consists of non-commissioned officers and men who are being instructed in first-aid; the other is an advanced class and the subjects taught are hospital duties, ambulance drill, and the sanitation of camps. The work will conclude with the official inspection in December. The officers selected to take part in the instruction are: Surgeon-Lieutenant-Colonel W. Culver James, Surgeon-Lieutenant-Colonel R. R. Sleman, Surgeon-Major E. M. Callender, Surgeon-Major O. S. de Segundo, Captain (R.A.M.C. Vol.) E. W. St. Vincent Ryan, Surgeon-Captain J. H. Dauber, Surgeon-Captain A. Ducat, Surgeon-Captain J. Masters, Surgeon-Lieutenant C. A. Lees, and Surgeon-Lieutenant P. Bott.

ROYAL NAVY MEDICAL DEPARTMENT ENTRANCE EXAMINATION.

An examination of candidates for entry into the Medical Department of the Royal Navy will be held in November next at Examination Hall, Thames Embankment. Not more than ten commissions will be offered. The forms to be filled up by candidates will be supplied on application to the Director-General of the Royal Navy Medical Service, Admiralty, 18, Victoria street, S.W.

NAVAL MEDICAL SUPPLEMENTAL FUND.

At the quarterly meeting of the directors of the Naval Medical Supplemental Fund held on Oct. 9th Inspector-General W. H. Lloyd, R.N., in the chair, the sum of £75 was distributed among the several applicants.

Major F. H. Thompson, officer commanding Welsh Border Bearer Company, R.A.M.C. (Vol.), has been appointed Medical Officer in charge of troops (4th Battalion Shropshire Light Infantry Militia) at Hereford, vice Colonel R. Thomason, deceased.

Revised regulations for the Army Medical Services, which have been approved, will shortly be issued.

Correspondence.

"Audi alteram partem."

OPERATIVE TREATMENT IN INSANITY.

To the Editors of THE LANCET.

SIRS,—My thanks are due to Dr. T. Claye Shaw for his prompt and courteous answer to my letter of Sept. 16th, but he has overlooked some of the questions that I put therein. I still do not understand what information bearing on the prognosis of a case of ordinary insanity, not due to gross intracranial disease, is to be obtained from what can be seen of the brain and its membranes through a trephine hole. The improvement of prognosis was one of the advantages promised by Dr. Claye Shaw from cerebral surgery.

I well remember the occasion on which Dr. Claye Shaw brought the subject before the section of the British Medical Association at Bournemouth and proposed that the mental condition of a general paralytic could be improved by making a hole in his skull. Dr. Claye Shaw may, perhaps, remember that I suggested he might as well try to lower the ritual of a church by taking some of the slates off the roof. My recollection is that his advocacy of trephining was limited to cases of general paralysis, while my questions have regard to cases of ordinary insanity, not due to gross intracranial disease. As I understand Dr. Claye Shaw's position, it is putting it at the very highest, that in some cases of general paralysis there is intracranial pressure due to effusion into the arachnoid; that this fluid can be evacuated and the pressure relieved by trephining; that the same results can be obtained by lumbar puncture; and that lumbar puncture is to be preferred. So far I see no argument in favour of cerebral surgery, whether for prognostic or for therapeutic purposes, in ordinary insanity not due to gross intracranial disease.

But Dr. Claye Shaw goes further. He says there are cases in which there is reason to believe that delusions are the result of hallucinations; that the hallucinations arise from disease or derangement of the sensory centres; and that these centres can be exposed and remedies applied locally by operative measures. The proposal appears to me to rest upon so frail a chain of assumption as deprives it of all justification. Cases in which delusions follow hallucination are rare; and cases in which it can be plausibly advanced that delusions result from hallucination must be extremely rare. But supposing it is satisfactorily determined in any case that delusion has resulted from hallucination I know of no case verified post mortem in which the character of a hallucination has enabled a localising diagnosis to be made. Supposing, however, that this were done and the area of convolutions, to the disorder of which the hallucination is due, to be certainly determined, it is to be remembered that if, as Dr. Claye Shaw suggests, this area is one of sensory centres, it is much less accessible to operative exposure than the motor area hitherto mostly operated on. In some cases it could not be exposed without an operation from which the most audacious surgeon would shrink. Supposing all these difficulties surmounted; supposing it is ascertained beyond question that the hallucination preceded the delusion; that it not only preceded, but was the cause of, the delusion; supposing the area of convolutions, to the derangement of which the hallucination is due, to be localised and correctly diagnosed; supposing the operation to be practicable and to be successfully performed; supposing the peccant convolution to be laid bare; supposing all these improbabilities realised and all these difficulties surmounted, what then? What are we to do to that convolution, to drive, let us say, the hallucination out of it? We must be guided, I suppose Dr. Claye Shaw would say, by what we find. We are still, therefore, in a region of uncertainty; and suppose we find nothing? What then? Sirs, I cannot think it justifiable to subject a patient, on the strength of such a chain of improbable contingencies, to an operation which, if it does not risk his life, does cost him a lot of money, as Dr. Claye Shaw very properly points out.

I do not deny that there are rare cases in which there is grave suspicion that gross brain disease accompanies mental disorder that may justifiably be submitted to operation if localising and other symptoms are propitious, but I strongly protest against giving surgeons a roving commission to trephine insane persons on the ground that abdominal surgery has been very successful.

I am, Sirs, yours faithfully,

Wimpole-street, W., Oct. 6th, 1906. CHAS. MERCIER.

ANTIVACCINATION TACTICS.

To the Editors of THE LANCET.

SIRS,—Through the courtesy of Mr. W. J. Furnival, of Stone, Staffs, England, we have recently received two small *brochures* devoted to a review of the so-called medical literature adverse to vaccination. The volume, entitled "Professional Opinion Adverse to Vaccination, American, Colonial, and Continental," opens with an abstract of a paper by our health officer, Dr. Martin Friedrich, from the *Cleveland Medical Journal*, and a second abstract from a paper by the same author accredited to a monograph published by the Physical Culture Company, of Spotswood, New Jersey, although it originally appeared in the *Cleveland Medical Journal*. It seems to us wise, both in behalf of Dr. Friedrich and in the interest of the Cleveland profession, to make the true facts in the matter known through your journal. The articles referred to in this *brochure* appeared in the *Cleveland Medical Journal* during the year 1902, the responsibility for their publication being assumed at that time by the then editor in chief. In May of this year we received a request from Mr. W. J. Furnival for permission to republish in pamphlet form one of these articles referred to above. In reply to this request we wrote under date of May 18th as follows:

Wm. J. Furnival, Esq.,
16, Granville-terrace, Stone, Staffs, England.

DEAR SIR,—With respect to your request to republish in pamphlet form an article which appeared in the *Cleveland Medical Journal* by Dr. Friedrich we thought it best to ask the author whether he wished

> such republication. He said very positively that he did not. In so far, however, as we are concerned, we are perfectly willing that you should reprint this article, provided only you publish in an equally conspicuous place, the following statement. As shown by the records of the Health Office of Cleveland, Ohio, Dr. Martin Friedrich was appointed health officer during a waning epidemic of small-pox. He at once, and very properly, began to clean up the infected districts. The last cases soon disappeared, but previous to his campaign their numbers were becoming fewer and fewer. In a very short time the disease was again introduced into Cleveland from without. In spite of the previous disinfections and their rigorous continuance in the new epidemic, the number of cases increased month by month. At first, during the spring and summer with increasing numbers of cases, general vaccination was not introduced on account of Dr. Friedrich's unwillingness to use an unsatisfactory vaccine. Finally, however, a satisfactory virus was secured and general vaccination was begun. The workmen in numerous shops, children about to re-enter school for the fall term, and all persons who came in contact with small pox were vaccinated as rapidly as possible. Within two months after the beginning of general vaccination an epidemic which had promised by its constantly increasing numbers of cases to be very serious indeed began to decline, and once on the decline dropped off with great rapidity. You will please note that in the above statement there can be found scarcely a single statement of opinion, simply cold, hard facts. We presume that these facts are the reason why Dr. Friedrich declines to have his paper republished, though he does not say so. We, therefore, can only grant permission for the republication of the article, if you agree also to publish the above statement, and thank you very much for not having published it without permission. Sincerely yours.
>
> (Signed) THE CLEVELAND MEDICAL JOURNAL.

In this letter permission was given to make use of Dr. Friedrich's article provided only the statement contained in the last half of our letter be published in an equally conspicuous space. In the *brochure* before us the first six and one-half pages have been abstracted from Dr. Friedrich's article and no allusion has been made in this place to our letter quoted above. Not until we reach p. 175 of the *brochure* do we find our statement of the *facts* and in this way the compiler has violated the conditions under which permission for republication was granted.

It is deeply to be regretted that the *Cleveland Medical Journal* should have been in the smallest degree available as a source of material for the propaganda of the antivaccinationists. We are delighted to be able to report that during the last four years, under the efficient management of Dr. Friedrich, our health officer, aided by a corps of district physicians, vaccination has been carried out in a most thorough manner with the happy result that Cleveland has been during this time practically free from small-pox. At the present time it is the rule of our health office that no child shall be allowed to return to the public schools without having been first properly vaccinated. Trusting that you will be able to give this communication the prominence which it seems to us to deserve,

We remain, yours very truly,
THE CLEVELAND MEDICAL JOURNAL,
EDWARD PERKINS CARTER, Editor.
Cleveland, U.S.A., Sept. 25th, 1906.

PURIN-FREE DIETS.

To the Editors of THE LANCET.

SIRS,—In his interesting article on the above subject in THE LANCET of Oct. 6th Dr. W. A. Potts says: "The condition of 'hyperpyræmia,' due to an excess of carbohydrates, recently described as the underlying element in many disorders, is not developed on a properly arranged fruitarian diet; all excesses are bad and too much starchy (carbohydrate!) food in conjunction with meat is especially bad." I fully agree with the whole of this statement. Indeed, I would go further and admit that a properly arranged fruitarian diet is in many cases capable of dispersing the condition of hyperpyræmia and the numerous disorders—migraine, asthma, and other recurrent affections less well defined—which I have claimed are very commonly dependent thereon. In treatment by such a diet the hyperpyræmia is dispersed by means of the necessary reduction in the proteid intake.

But why cease from clinical experiment at this stage of the argument? Why not take a series of similar cases and try the effect of striking out the other factor in the injurious food combination—namely, the carbohydrate excess? The experiment is simple, harmless, and, when restricted to patients who are more or less corpulent, almost always successful. All that is needful is to cut off sugar, including articles of food containing sugar, and reduce the remainder of the purely carbonaceous intake—fats and starches, especially the latter—to the level at which the patient is steadily losing weight. Even a less severe reduction is often sufficient. When this is done, many recurrent affections, such as bilious attacks, sick headaches, asthma, and even some cases of angina pectoris, cease at once; and many chronic affections, such as persistent bronchial catarrh and the so-called gouty eczema and pruritus, steadily improve and disappear in the course of a very few weeks.

But if this is true—and the statement may be readily verified by every practitioner of medicine—what becomes of the contention that the purin intake is an essential factor in any of the affections mentioned? Meat, both red and white, of necessity enters largely into the dietary of such patients and tea, coffee, meat extracts, and other purin foods may be given freely without danger of inducing relapse, so long as the purely carbonaceous intake is adequately restricted. On the other hand, as Dr. Potts himself has stated, "the mere fact that a diet is purin-free is of little value."

I am, Sirs, yours faithfully,
Upper Norwood, S.E. FRANCIS HARE.

CERTAIN ANALOGIES BETWEEN INFLUENZA AND PULMONARY TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—I would be much obliged by your publishing the following note. In THE LANCET of Sept. 15th I have noticed a misprint which makes the paragraph in which it occurs somewhat difficult to understand. I refer to your account of the paper that I read in the Section of State Medicine at the Toronto meeting of the British Medical Association. The fourth general analogy between tuberculosis and influenza that I undertook to discuss was described in the abstract of the paper which it is usual to furnish beforehand in the following words: Both distinctly affect the functions of relation (*a*) by exciting rheumatic symptoms—*infectious rheumatism* in the one case, *rhumatisme tuberculeux* (Poncet) in the other; and (*b*) by giving rise to *meningeal and other nervous complications*.

The misprint to which I refer, it will be seen, makes this meaning obscure. I am, Sirs, yours faithfully,
Nice, Oct. 5th, 1906. A. W. GILCHRIST, M.D. Paris.

PRESCRIBING BY OPTICIANS.

To the Editors of THE LANCET.

SIRS,—I beg to inclose for your perusal a page from a copy of the *Optician and Photographic Trades Review* sent to me presumably in the ordinary course of advertisement from the offices of the paper. The reply to an "Assistant" (save the mark!) shows what considerable advances the technical education of "optologists" is making when such advice is tendered to *assistants*. I have during the last few months had the following cases through my consulting-room. Two of hemianopsia with cerebral tumour, since dead, both losing six months of invaluable medicinal opportunity, whilst having spectacles provided and changed, &c., by opticians whom they had unfortunately consulted; one of diabetic cataract nine months under an optician with three changes of expensive spectacles; one of optic atrophy five months under an optician with three changes of spectacles. One lady whom I operated upon for cataract (double—could not count fingers with either eye) was four months before carefully examined by an optician "in a dark room" and solemnly assured that there was nothing the matter with her eyes but that her pride was preventing her from wearing the necessary spectacles, &c. Surely it is about time that the question was settled whether it were not better for ophthalmic surgeons to become opticians as well in order, if possible, to protect the public from the educated incapacity of this spreading charlatanism.

I am, Sirs, yours faithfully,
Sept. 20th, 1906. FIFE.

THE TREATMENT OF INEBRIETY.

To the Editors of THE LANCET.

SIRS,—A difficulty frequently experienced in the medical treatment of inebriety is the aversion so many inebriates have to water, whether cold, hot, or aerated. They are more or less thirsty and desire something to drink with their meals—but not water. It has been my lot to treat a very large number of drunkards within the last few years, nearly all of them belonging to the educated classes, and I have often been asked whether a potable liquid, other than water, milk, tea, or coffee, could not be devised for their benefit. The vehement asseveration of one patient that if he was allowed to drink mild ale it would greatly help in the treatment he was undergoing led me to make the experiment of allowing him to take Allsopp's lager beer (a beverage containing, I believe, about 4 per cent. only of alcohol) with his meals. The result was satisfactory and in a short time there was a very marked improvement in his condition. The tonic constituents of hops and malt apparently suited him better than the strychnine and atropine he had previously been taking. This man had been a heavy drinker of spirits, seldom taking less than a bottle of whisky a day and sometimes more. After some weeks' treatment, during which period he was made to live in the open air and work hard in a garden, he resumed the exercise of his profession and has now for two years been leading an active and useful life, contented with his lager beer. The same concession was accorded to another patient and with equally satisfactory results, as he has been working steadily for more than a year. My experience is that drugs alone are not of much value in dealing with the craving for drink. There is a temporary amelioration often followed by a debauch. When the subject is verging on delirium tremens, as he often is on first coming for medical aid, I have found 25 grains of trional very efficacious, following this up with full doses of the bromides twice a day for three or four days.

I am, Sirs, yours faithfully,

Oct. 6th, 1906. M.D.

THE
MILAN INTERNATIONAL EXHIBITION.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

(Concluded from p. 956.)

Milan, Oct. 1st.

THE Section of Hygiene includes many things which we should not put under the denomination of sanitation. But the term hygiene may be taken to cover a vaster field; at the exhibition it includes the battle field. A third, if not half, of the space is taken up with field ambulances and methods of transporting the wounded in war. The main building is circular, with a dome overhead. On entering there are apparatus for the chemical analysis of food, and photographs illustrating various public health services. Turning to the right the visitor is at once confronted by a gigantic plan of the principal hospital of Milan. It consists of a number of pavilions two storeys high and the ventilation is indicated by blue arrows for the outlet and red for the inlet of air. Then there are photographs of some of the details of treatment, such as the application of the Finsen rays and of electricity, and of some special ophthalmic cases. Close by are models of crèche furniture where very young children are so suspended that they may move without much risk of hurting themselves. The firm of Mangini and De-Amici, from Pavia, have a large assortment of autoclaves of the Chamberland and other models. It will interest bacteriologists to see what Italian manufacturers can produce for their investigations. Close by there are a few exhibits that really come under the denomination of sanitation. There is a large stand entitled "*Materiale delle malattie contagiose, Ing. A. Rastelli et Cie, Torino.*" First among these, and occupying very unworthily a considerable space, is what presumably professes to be a cheap way of providing washing accommodation for a large number of persons in a hospital, school, or barracks. There is a long, roughly made, corrugated iron trough. Suspended over this on a pivot are a number of fixed basins, which can only be emptied by tilting them over into the large, ugly, open trough. The latter could never be kept clean, particularly as there are edges or ledges inside which no one would ever attempt to scrub. It would be much safer simply to place the basins on a shelf or table where splashing and dirt would be seen and could be removed. On the other hand, and of very great practical interest in this exhibit, are various efforts to combine the English and the continental conception of a water-closet.

This is a problem which, in England, we are too prone to imagine is solved because, among cleanly people and well kept houses, the seats are comfortable and there is no objection to make use of them. But even among this class of people the fact nevertheless remains that the attitude is not natural and that those who suffer from constipation obtain relief by assuming the position which nature evidently intended. Perhaps it is because constipation is more prevalent in wine-drinking countries that there is throughout the south of Europe such a strong, such an inveterate, objection to sitting down. Also there is this feeling—and in public places, railway stations, and hotels it is not without justification—namely, that there is some slight risk of contamination in sitting down and none whatsoever in standing. So important are these considerations that, even in England, endeavours have been made to put on the market a closet-seat so shaped as not to interfere with the position which nature intended the human being to assume, for in THE LANCET of July 15th, 1905, p. 167, were described two "natural" water-closets designed by Messrs. D. T. Bostel and Sons and by Mr. E. A. Rawlence respectively. At the Milan Exhibition there are a number of such contrivances. One of them is called the "*Brevetto Loro.*" The floor of the closet is concave throughout and of enamelled iron, so that all moisture or wet flows immediately to the drain. Pegs rather more than an inch high and of the size of an ordinary cork provide a dry and firm foothold. From the wall there are two small, polished, wooden rests which can, if required, be pulled down. When not used a counter weight makes them stand back and upright against the wall. Thus these two small pieces of wood cannot in any way be soiled and they do not join in front. Indeed, though slightly curved, they do not approach nearer than some eight inches from each other. There are many closets with similar wooden rests, but as they do not lift up they might be splashed when slops are thrown in the closet. Here, in any case, it will be seen that very clean and not altogether uncomfortable closets are built without seats and yet there is a sufficient rest for those who feel the need of some support.

From this exhibit a luxurious bathroom is reached with furniture rendered aseptic. Then follow kitchen ranges and steam laundry machinery, all manufactured at Milan. Another step brings the visitor to the figures, charts, &c., of the Milan Society against tuberculosis. One institution has an album of photographs, mostly of young women taken before and after treatment, showing the improvement in their looks, while underneath various details are given, including figures as to the amount of flesh that they have gained. The society is supported by voluntary subscriptions and a municipal subvention. There are specimens of the sort of furniture that should be used in the patients' rooms and maps showing where in Italy tuberculosis is most prevalent—namely, in the northern provinces. Then come drawings and pictures of popular sanatoriums, notably that of the Sanatorium Umberti I. of the province of Milan. Many of these institutions have interesting and artistic postcards which are useful as means of propaganda. In the centre of this, the dome or circular part of the building, are the exhibits of the Salsomaggiore health resort and waters, surgical instruments, and a good deal of furniture for operating rooms.

Leaving this central and circular building and taking the branch or annex to the right the extensive show of the Italian Red Cross Society will be seen. Many life-size lay figures illustrate graphically how the wounded should be carried. There are small stretchers that fold in a compact manner so that they can be carried in one hand like a small travelling bag. Of course, there are many ambulance carriages and wagons, but there are also some so fitted that they can be pulled forward either by men or by horses. Some are quite small, with room for only one stretcher inside and one man in front to drag it along. Some stretchers are fitted with legs underneath and mattresses above, so that they can serve as beds on which the patient may remain indefinitely. A few of the Genoa Red Cross Society's stretchers for accidents are painted white or light brown. They look quite pretty and cheerful and this is a great improvement on the former black and forbidding stretchers which seemed to suggest a funeral rather than the hope of recovery. What is special to Italy and very interesting are the large exhibits of the ambulances organised to deal with the prevalence of malarial fever. Here helmets are worn, mosquito netting is hung from them, and there is a small hoop to keep the net away from the face and make it fit securely over the shoulder and chest. Close by is a full sized model

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

also an exhibit by the Wellcome Physiological Research Laboratories, but this is not so well arranged as it was last year at the Brussels Exhibition. [illegible]

[illegible]

[illegible]

Thus it can be seen that though the main purpose of the [illegible] Exhibition is [illegible] there are also a certain number of exhibits that are of interest to all concerned in the preservation of the public health.

MANCHESTER.

(From our own Correspondent.)

The Medical Session.

[illegible] and the results of a session are not determined by the proceedings of the opening day.

[illegible]

One of those [illegible]

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This is a problem which, in England, we are too prone to imagine is solved because, among cleanly people and well kept houses, the seats are comfortable and there is no objection to make use of them. But even among this class of people the fact nevertheless remains that the attitude is not natural and that those who suffer from constipation obtain relief by assuming the position which nature evidently intended. Perhaps it is because constipation is more prevalent in wine-drinking countries that there is throughout the south of Europe such a strong, such an inveterate, objection to sitting down. Also there is this feeling—and in public places, railway stations, and hotels it is not without justification—namely, that there is some slight risk of contamination in sitting down and none whatsoever in standing. So important are these considerations that, even in England, endeavours have been made to put on the market a closet-seat so shaped as not to interfere with the position which nature intended the human being to assume, for in *THE LANCET* of July 15th, 1905, p. 167, were described two "natural" water-closets designed by Messrs. D. T. Bostel and Sons and by Mr. E. A. Rawlence respectively. At the Milan Exhibition there are a number of such contrivances. One of them is called the "*Brevetto Lena.*" The floor of the closet is concave throughout and of enamelled iron, so that all moisture or wet flows immediately to the drain. Pegs rather more than an inch high and of the size of an ordinary cork provide a dry and firm foothold. From the wall there are two small, polished, wooden rests which can, if required, be pulled down. When not used a counter weight makes them stand back and upright against the wall. Thus these two small pieces of wood cannot in any way be soiled and they do not join in front. Indeed, though slightly curved, they do not approach nearer than some eight inches from each other. There are many closets with similar wooden rests, but as they do not lift up they might be splashed when slops are thrown in the closet. Here, in any case, it will be seen that very clean and not altogether uncomfortable closets are built without seats and yet there is a sufficient rest for those who feel the need of some support.

From this exhibit a luxurious bathroom is reached with furniture rendered aseptic. Then follow kitchen ranges and steam laundry machinery, all manufactured at Milan. Another step brings the visitor to the figures, charts, &c., of the Milan Society against tuberculosis. One institution has an album of photographs, mostly of young women taken before and after treatment, showing the improvement in their looks, while underneath various details are given, including figures as to the amount of flesh that they have gained. The society is supported by voluntary subscriptions and a municipal subvention. There are specimens of the sort of furniture that should be used in the patients' rooms and maps showing where in Italy tuberculosis is most prevalent—namely, in the northern provinces. Then come drawings and pictures of popular sanatoriums, notably that of the Sanatorium Umberti I. of the province of Milan. Many of these institutions have interesting and artistic postcards which are useful as means of propaganda. In the centre of this, the dome or circular part of the building, are the exhibits of the Salsomaggiore health resort and waters, surgical instruments, and a good deal of furniture for operating rooms.

Leaving this central and circular building and taking the branch or annex to the right the extensive show of the Italian Red Cross Society will be seen. Many life-size lay figures illustrate graphically how the wounded should be carried. There are small stretchers that fold in a compact manner so that they can be carried in one hand like a small travelling bag. Of course, there are many ambulance carriages and wagons, but there are also some so fitted that they can be pulled forward either by men or by horses. Some are quite small, with room for only one stretcher inside and one man in front to drag it along. Some stretchers are fitted with legs underneath and mattresses above, so that they can serve as beds on which the patient may remain indefinitely. A few of the Genoa Red Cross Society's stretchers for accidents are painted white or light brown. They look quite pretty and cheerful and this is a great improvement on the former black and forbidding stretchers which seemed to suggest a funeral rather than the hope of recovery. What is special to Italy and very interesting are the large exhibits of the ambulances organised to deal with the prevalence of malarial fever. Here helmets are worn, mosquito netting is hung from them, and there is a small hoop to keep the net away from the face and make it fit securely over the shoulder and chest. Close by is a full sized model rural district council held on Oct. 1st, when it was reported that in consequence of the breakdown in the tanks the sewage flowed into the river Yeo in a crude state and the stream was in a filthy condition. Mr. Chafyn-Grove said that as a member of the sanitary committee of the Somerset county council he had been officially requested to view the sewage works and he would have to report very unfavourably upon what he had seen. Eventually it was decided to write to the Somerset county council and to request that body to insure the purification of the river and also to address a formal complaint to the Yeovil corporation. The septic tanks were constructed three years ago at a cost of £30,000, but they have not been successful owing, it is stated, to the presence in the sewage of large quantities of leather manufacturers' refuse, consisting of arsenic, wool, hair, lime, &c.

Sanitary Matters in the Tavistock Rural District.

Dr. R. Deane Sweeting of the Local Government Board, who has been inquiring into the outbreak of diphtheria at Princetown, in his report which was issued on Oct. 3rd, recommends that an isolation hospital should be provided for he district and that greater attention should be given to he condition of cottage property and the prevention of heir overcrowding. Dr. Sweeting urges that wells should e protected against pollution and that cowsheds, milkshops, airies, and slaughter-houses should be regularly inspected.

Oct. 8th.

SCOTLAND.

(From our own Correspondents.)

Changes on the Staff of the Royal Infirmary, Edinburgh.

Dr. Andrew Smart and Dr. W. Allan Jamieson having completed their term of office as physician and dermatologist espectively at the Edinburgh Royal Infirmary, are retired rom active duty. Dr. Alexander James has become senior ordinary physician and Dr. R. W. Philip has become junior ordinary physician in charge of the wards devoted to the medical education of women. Dr. Norman Walker succeeds Dr. Jamieson as head of the skin department. Owing to the resignation of Dr. R. McKenzie Johnston from the throat and ear department Dr. A. Logan Turner becomes chief there. The assistant physicians change the wards to which they have been attached, Dr. W. Russell being now senior assistant physician in charge of the wards for incidental delirium and Dr. J. Murdoch Brown in charge of the observation wards. These changes have made a vacancy on the staff of assistant physicians and there are a number of able candidates for this coveted post. The candidates are Dr. Harry Rainy, Dr. Edwin Bramwell, Dr. W. T. Ritchie, Dr. D. Chalmers Watson, Dr. Edwin Matthew, and Dr. John Eason. For the vacancy in the ear and throat department the candidates are Dr. John S. Fraser, Dr. William Guthrie Porter, and Dr. John D. Lithgow.

Changes in the Edinburgh Medical School.

Owing to the appointment of Dr. D. Noel Paton to the chair of physiology in the University of Glasgow a vacancy was made in the lectureship in the extra-mural school. This has been filled by the appointment of Dr. Alexander Goodall to lecture at Surgeons' Hall and at the Medical College for Women. Dr. R. W. Philip having resigned his lectureship on the practice of medicine at the Medical College for Women, Dr. W. Russell succeeds him, having resigned the lectureship on pathology, while he again is succeeded in the pathology lectureship by Dr. Stuart McDonald. Owing to changes in the Royal Infirmary there have been corresponding changes in the lectureship on ophthalmology, laryngology, and otology at the Women's College.

Congratulatory Dinner to Dr. Noel Paton.

Dr. Noel Paton is to be entertained at a congratulatory dinner on Tuesday, Oct. 16th, on the eve of his assuming the duties of professor of physiology in the University of Glasgow. The dinner is to be held in the Royal College of Physicians, Edinburgh.

The Edinburgh Vacation Course for Graduates.

This course has just terminated and from all sides it seems to be regarded as a great success. On Oct. 3rd the Royal College of Physicians held a conversazione in its own rooms in honour of those attending the course. There was a large gathering and the rooms looked their best. There were a number of exhibits of medical interest, while demonstrations were given of the method of determining the presence of dust in the atmosphere and of various electrical apparatus, and lantern demonstrations were given of acromegaly and giantism and of milk-supply and healthy dairies.

Opening of the Bangour Village Asylum.

This asylum was formally opened on Oct. 3rd by Lord Rosebery as Lord Lieutenant of Linlithgowshire, the county in which the asylum is situated. It has been built by the Edinburgh lunacy board, its erection being rendered necessary on account of the authorities of Morningside Asylum intimating that they could not continue to look after the pauper lunatics for whom the parish council of Edinburgh was responsible. As a result of this the city of Edinburgh was formed into a lunacy district and found itself faced by the problem of providing accommodation for about 1000 lunatics. The General Board of Lunacy urged the adoption of the "village system," which had been strongly approved by the late Sir John Sibbald, Senior Commissioner of Lunacy at the time. The estate of Bangour and some adjoining land were purchased at a cost of about £23 per acre. An account of the buildings would occupy much space and it is sufficient to state that the "village" which has arisen on the purchased land is quite self-contained, with a water-supply and reservoir of its own costing no less than £30,000, not to mention electric plant and a complete drainage system. It has even a branch railway of its own, two and a half miles in length, which cost over £30.000. Altogether, the "village" is estimated to have cost £300,000. The medical superintendent is Dr. John Keay, formerly of the Inverness Asylum. It is claimed that this new asylum is most perfect in its arrangements and equipment. After the asylum was duly declared to be open the company gathered for luncheon. Bailie Clark, who has been chairman of the district lunacy board whilst the asylum has been building, occupied the chair. Lord Rosebery proposed the toast of the "Bangour Village." He said he had been asked to speak to them about many things; one thing he would refer to and that was the suggestion that he should plead the cause of a preventive asylum, but he was not such a fool as to rush in where experts feared to tread. All that he would say on that point was that he hoped any such scheme if adopted at all should be tentative until they were sure of the results of preventive treatment, for until that was done they were not justified in adding to the great expenditure on lunacy at present prevailing in the country. He then spoke on the alleged increase of lunacy and dwelt upon the cost to the country. The capital invested in lunatic asylums amounted to £24,500,000 and the annual expenditure was nearly £3,500,000. This was "the vast barren fact that you have to face—that this money is paid by the nation, not for those from whom it can have any hope in the future, or, generally speaking, in whom it can have any confidence as good citizens and subjects, but for those who represent sheer waste and shear decay. It is for this that we are building these sepulchres of living humanity, these tombs of the intellectually dead." His lordship continued in the same train of thought and speech and in speaking of remedies he thought that if more were done to check the restlessness of the age some good would follow.

Oct. 9th.

IRELAND.

(From our own Correspondents.)

Royal Veterinary College of Ireland.

The seventh session of the Royal Veterinary College of Ireland was opened on Oct. 3rd, when Sir Christopher Nixon, Bart., occupied the chair as President of the board of governors and distributed the medals which had been awarded to the successful students. It is well known that the existence of this very promising college is largely due to his energy and influence. In proposing a vote of thanks to Professor Mettam, whose address dealt with tuberculosis in the lower animals, Sir Christopher Nixon expressed his opinion in favour of the French method of treating tuberculous disease in man, which is chiefly prophylactic, as distinguished from the German system which aims at destruction of the bacilli and cure of the disease.

blow that it is impossible to avoid mentally associating them occurred the other week in the case of a pupil of one of the Manchester municipal schools. A boy, aged 13 years, according to the evidence of his father, was a healthy lad, but on the Monday did not feel well and could not eat his breakfast. He went to school, however, and seemed to get better but on Wednesday when he went home at mid-day he was crying and lay on the sofa on his stomach. He said the teacher (not the headmaster) had struck him in the stomach and on the back of the neck. A medical man was sent for but the boy became worse and died at about 3 o'clock on the same afternoon. At the inquest several scholars in the class gave evidence of his having been struck by the teacher. As to the amount of punishment and its distribution there were various statements. One boy said that he had been "clouted" behind the neck and on the back; another that he had been hit on the head and in the back; and a third that he was hit "twice across the ears and once across the face." Three thought the blows were hard but a fourth that they were not "so hard." All agreed that the teacher's hand was open at the time and that he did not hit the boy on the stomach This contradicts the statement which the boy made to his father but it would be very difficult to follow the movements of a man rapidly and excitedly hitting a lad on the head, back, face, or stomach, as variously asserted. The teacher said, "I caught him with my hand once or twice on the side of the head." Mr. E. D. Telford said that he made a minute and microscopical examination of the body and death was due to rupture of the spleen and he was satisfied that the rupture was due to an injury. There was a bruise of one of the muscles of the abdomen. The coroner said it would be difficult to believe that the injury was received at any other time than during the punishment. The jury returned an open verdict but thought that the teacher ought to be censured. The coroner said he was glad that the jury had taken a merciful view of the case but he was bound to come to the conclusion "that you acted in a very unwarrantable manner." The slight amount of violence that will rupture the spleen in some conditions is well known, but Mr. Telford's evidence gives no hint of anything abnormal in this case so that the conclusion seems to be that the blow must have been heavy or that in falling, for the boy was said to have been knocked down, he might have fallen violently on the edge of a form. The teacher said that he had had the greatest provocation, and one can well understand that a teacher ought to have the temper of an angel and, as the coroner said, "to get a grip on himself before he can hope to master boys." Men of some temperaments are quite unfitted for authority, and the only safe rule is that corporal punishment should only be given by the headmaster. It is well to let this duty, when it is a duty, be carried out, not by the personally aggrieved and perhaps excited teacher, but by one whose own feelings have not been roused. There is a greater security that it may be carried out dispassionately.

"Live Wires."

An occurrence at Bolton a week ago shows how the various applications of science to daily life sometimes, instead of increasing the amenities of our sojourn here, threaten to cut it short, or at all events to make it unendurable. A funeral party was assembling in Bradshawgate, when an electric car turning out of another street "got its trolley head entangled with the overhead wires, bringing down several 'live' wires and guard wires." There were four horses attached to the hearse and one of the guard wires dropped among them, causing them to rear and to plunge violently. Two of the horses were injured, the hearse was damaged, and the driver had a narrow escape, his hat being knocked off by a wire. Fresh horses had to be brought before the funeral arrangements could go on. Hundreds of people were soon on the spot, traffic was impeded, and the tramway was blocked for more than half an hour. Fortunately, no human beings were hurt.

Motor Omnibuses.

n some of the suburbs of Manchester recently motor omnibuses have been destroying all comfort and quiet. Strong protests have been made, much ink—but as yet nothing worse—has been spilt, and newspaper columns have been filled, while no one is happy. Those who suffer and those who cause the suffering are equally miserable, and before long cases of nervous disturbance may be seen by medical practitioners. In the meantime the daily massacre by the motor cars goes on apace and seems likely to continue, for a trumpery fine appears quite inadequate to suppress the evil.

University of Manchester.

A sum of £5000 has been received from the trustees of the late Miss Middleton and is to be allocated towards the endowment of the chair of anatomy.

Oct. 9th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

The Water-supply of Glamorgan.

A CONFERENCE of representatives from the sanitary authorities in Glamorgan and from the county council was held at Neath on Oct. 8th, to consider what steps should be taken consequent upon the passing of the Glamorgan Water Act empowering the county council to make surveys with a view of ascertaining what sources of supply were available for the county. The chairman of the county council advocated the formation of a water board but this proposal was not acceptable just then to the majority of those present and it was ultimately decided to ask the county council to engage an expert to report upon the best method of dealing with the water-supply of the administrative county. The clerk to the Rhondda urban council, while endorsing the action taken by the county council, pointed out that that body was 20 years behind the times. The Cardiff corporation mains, he said, fully charged with water passed through Pontypridd though the people of that town were now suffering from the effects of a water famine. He thought that years ago an attempt should have been made to carry out a joint scheme for Cardiff and the populous places in the "hill country."

Dinners for Cardiff School Children.

During last winter a committee of Cardiff ladies provided dinners for children attending the public elementary schools who were recommended by the school teachers. Altogether 21,518 dinners were given at a cost of a little over 1*d.* for each dinner. It is proposed to continue the scheme during the coming months.

Motor Vehicles for Scavenging Purposes.

About two years ago the Cardiff corporation decided to use steam motors with trailer carts for the removal of street refuse. A large number of horses were sold and it was anticipated that there would be a considerable saving when the motors got into regular work. Four motors, each costing £450, have been in use and it is now reported by the surveyor that they are costing about £20 weekly more than horse traction. It has therefore been decided to discontinue the use of the motors and to return to horses.

The Workmen's Compensation Act.

A case of an unusual character was recently heard before the county court judge at Mountain Ash. In July, 1905, a collier was knocked down by a pony in one of the local collieries. He received injuries on his arm and head and worked intermittently for a few months, when he was entirely incapacitated and gave up work altogether. He received compensation from his employers during the time that he was away from work. At the end of the year he became depressed and in January, 1906, he committed suicide. Medical evidence attributed his depression and consequent suicide to the injuries received in the accident and the judge awarded compensation to the widow.

The Medical Officer of Health of Chipping Sodbury.

The Local Government Board has issued an Order forming a combined district in Gloucestershire for the purpose of appointing a medical officer of health and Chipping Sodbury is one of the constituent districts. Under the Order each district is required to appoint a specified number of delegates to an electing committee. The Chipping Sodbury council has decided not to appoint representatives, the effect of the decision being that the council will have no voice in the appointment of its medical officer of health.

Sewage Disposal at Yeovil.

The alleged failure of the septic-tank system of sewage disposal at Yeovil was referred to at a meeting of the Yeovil for scientific and diagnostic work. Special laboratories, an x-ray department, disinfecting appliances, and very comfortable nurses' apartments have been provided. The operating theatre is at the top of the building; its walls are covered with glass and all preparatory work, such as washing, disinfecting, anæsthetising, &c., is done in special anterooms. The rooms are heated by steam. The other new hospital is an addition to the Sophienspital and is provided with all requisites for the diagnosis and treatment of internal disease as well as for nose, throat, and ear work, a specialty which is very much cultivated now in Vienna. This last-mentioned institution contains beds for 70 patients, and clinical instruction will be given in the out-patient department in accordance with the wishes of the founder. Each of the two hospitals has cost about 1,000,000 kronen (£40,000), and ample space is provided for future enlargement of the wards.

Action for Damages against a Dentist.

An action brought by a patient against a dental surgeon was heard recently before the Court of Appeal. The facts are briefly as follows. Immediately after the extraction of several of his teeth the patient thought that he could feel a portion of a carious root in the wound and asked the dentist to examine the place in question. The dentist declared it to be the denuded alveolar bone and sent the patient away. Soon afterwards the place became painful and in reply to a letter of complaint the dentist wrote that no piece of tooth had been left in the wound. The pain, however, continued for about six months and another dentist who was consulted removed a fragment of a tooth from the old wound. Thereupon the patient sued the first dentist for 7000 kronen (nearly £300) damages, but the judge, after hearing medical evidence, decided that after an operation of that kind it was impossible to know whether a fragment was left behind or not and that there was nothing to justify the claim on the ground of negligence *contra legem artis*. The case was therefore dismissed.

The late Professor von Neumann.

Professor von Neumann, who died recently near Vienna, combined the abilities of an excellent teacher with those of a most acute observer. His class-room was thronged because he knew how to enliven his lectures on dermatology and syphilis and to impress the clinical facts on the mind of the audience. His principal work was the elucidation of the nature of tertiary syphilis in the south-eastern parts of Europe—namely, in the Balkan regions, where the disease appears in several types unusual in more civilised countries. The deceased was an uncompromising opponent of the system of fixing an age-limit for university professors.

The Winter Term of the University of Vienna.

The winter term of the Vienna Medical Faculty begins nominally on Oct. 1st, but the actual commencement of the classes and lectures varies between the 1st and the 14th of the month. Professor von Noorden, the successor of Professor Nothnagel, will lecture on internal medicine and is already in Vienna superintending the alterations in the clinic. He will continue to make the diseases of metabolism his specialty and numerous medical men in this and other countries have already intimated their intention to work in his clinic for that purpose. Apart from this new departure the programme for the courses has not changed materially from the one issued for the last winter term. Lectures on surgery and medicine will be delivered by 15 professors and numerous *privat-docenten* in addition to the special courses delivered by the clinical tutors and assistants These latter admit only a limited number of students and offer to every-one taking such a class an opportunity of doing practical work. The fees for the regular clinical lectures for the whole term, lasting for six months, are very low, only £1 1s. for students and £2 2s. for graduates, whilst the fees for the special classes vary from £4 4s. to £8 8s. Gynæcological instruction is also obtainable at the same rate, whilst for the specialised subjects of otology, rhinology, ophthalmology, bacteriology, urology, and similar subjects, there are courses which last from four to six weeks, the average fees being £2 10s. The number of classes to be held during the semester will not be less than 120. Ample opportunity for useful work is thus offered.

Medical Supervision of School Children.

The Board of Education, under the direction of the Ministry of Education, has worked out the details of a new regulation referring to the supervision of school children by medical practitioners who will periodically examine the health of the children attending the schools. As the chief object of the regulation is the prevention of disease they will devote their attention mainly to prophylactic work, not to the treatment of children who may become ill. The school medical officers will have authority in all questions relative to the physical and psychical well-being of the pupils; they will control the gymnastic exercises and before each school term they will examine the children as to the state of the eyes, ears, throat, and spine, so as to discover any who may be unfit for the work of the class in regard to singing, gymnastics, and needlework. First aid may be given if necessary but otherwise medical treatment is not to be undertaken. The proposed remuneration is very low, only 40 kronen (about £2) per class per annum and the Medical Council is making every effort to raise the payment to at least £4 per class, so that a school of (on the average) 22 classes would pay at least £80 a year. It is also in contemplation to appoint special practitioners who would have to give up private practice and to devote all their time to the prophylactic work. Of course, a large number of schools would have to be allotted to each practitioner appointed in order to compensate for loss of private work.

Oct. 8th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Medical and Sanitary Geography of Turkey.

THE Imperial School of Medicine in Constantinople is about to publish a book which will prove to be of considerable general use and of special value to medical men residing in the Ottoman Empire. It will contain information relative to the internal conditions and natural features of the country, such as the population, the climate, the rainy seasons and other meteorological incidents, endemic maladies, the nature and peculiarities of the soil in various places, the principal lakes and rivers, thermal baths, medicinal springs, &c. This "Géographie Médicale et Sanitaire" will be issued under the direct supervision and editorship of the authorities of the above-named school. The sanitary inspectors and the medical men of the different provinces and districts of the Empire will furnish all the required facts and information necessary to make this important treatise fairly complete. It will contain illustrations and several maps. Descriptions of certain methods of medical treatment and of hygienic and prophylactic measures adopted in various localities will also be found in it.

Public Health Work.

The Turkish newspapers published in Stamboul deplore the prevalence of superstitious usages among the lower classes of the population who are far from willing to submit to the new regulations for disinfection and prevention of disease recently introduced by the High Commission of Public Hygiene. These people adhere obstinately to the use of all sorts of domestic remedies, amulets, talismans, and recitations from the Koran, and if infectious disease breaks out, they attempt, by every possible stratagem, to hide the fact from the sanitary authorities, thus favouring the spread of the contagion and increasing the danger to the general public. The above-named commission is, however, endeavouring to combat this superstitious ignorance. Another useful measure taken by it is the disinfection every fortnight of all public vehicles, tramcars, and railway carriages, as well as of the local steamers plying on the Bosphorus and the Golden Horn. The Mahsoussé and the Shirket-i-Hairié Navigation Companies, owning vessels in the Marmora and the Bosphorus, have been directed to furnish lists of their steamboats and landing-places to the commission, to the municipal inspectors, and to the authorities of the service of sanitation and disinfection. There is also some ground for believing that the drainage of the suburbs will receive attention, that several public slaughter-houses will be established, and that other measures will be taken to improve the sanitary and hygienic condition of the metropolis. Among these measures I must especially mention the decision to appoint trained assistants to work in conjunction with the medical men of the different municipal districts.

A Popular Panacea.

An almost universal domestic remedy in great vogue among the ignorant classes of the Mussulman population is composed of as much yaghourt as can be purchased for

The Medical Officer of Health of Belfast.

Not for many years has this city been so aroused as over the action of the corporation in the appointment of the medical officer of health and the public press is full of letters on the matter. Great care is being exercised in finding out the exact way the councillors and aldermen voted, as well as the names of those who abstained, and a list is given in the press of those who are retiring in January and who will then have to seek re-election, so that they may be opposed. All the Belfast press—to their credit be it said—denounce the action of the corporation and the question now is, as a writer puts it in one of the daily papers, "Are the Belfast voters going to accept the present position, or will they strike out for a purer civic life?" A strong protest has been sent to the Local Government Board and further action will be taken.

Royal Sanitary Institute.

The members of the Royal Sanitary Institute have had a provincial sessional meeting in Belfast and on the afternoon of Oct. 5th they discussed the Sewage Purification Problem, introduced by Dr. J. D. Williamson, the general opinion being in favour of bacterial purification rather than the precipitation process.

The Typhoid Fever Epidemic in Belfast.

During the past two months an epidemic of typhoid fever has been prevalent in the Windsor end of Belfast and a report from the public health committee on the matter was issued on Oct. 9th. In this it points out that its officials examined the source of the milk-supply of a certain dairy and they found that an officer of this place had recently been in indifferent health but as the illness was slight the cause could not be ascertained. The proprietor was advised that none of the workers of the family in which the alleged sickness occurred should be allowed to have any connexion with the dairy, that their cottage should be disinfected, and that the stream polluted by drainage from the cottage should be cleared out and disinfected with quicklime. The proprietor agreed to all this but declined to suspend the sale of his milk as Professor W. St. C. Symmers had given a certificate that it contained nothing that would cause typhoid fever. In the meantime a blood examination of the person ailing was made by Professor Symmers and the certificate was received on Oct. 6th and it is accepted by the committee as the completion of the chain of evidence. The following is a copy of the certificates which were before the committee:—

Queen's College, Belfast, Oct. 5th, 1906.

DEAR SIR,—The sample of blood taken by Dr. —— from —— Dairy gives a positive Widal reaction; in other words, this patient either is at present or quite recently has been suffering from typhoid fever. I understand that this patient has milked cows belonging to the —— Dairy. If this is true, then you have in this instance a very patent source of danger to the consumers of such milk.

I am, Sir, your obedient servant,
WM. ST. C. SYMMERS.

Queen's College, Belfast, Oct. 5th, 1906.

DEAR SIR,—The water sent to me on September 26th, coming from ——, near ——, contains colon bacilli and also a bacillus very closely allied to the bacillus of typhoid fever This latter bacillus is one of the paratyphoid group and differs from the true typhoid bacillus very slightly. I venture to point out that these typhoid-like bacilli have only been recognised in recent times and that their significance is by no means well understood—indeed, certain authorities believe them to be the same thing as genuine typhoid bacilli. Hence the water you sent is to be regarded with great suspicion.

I am, Sir, your obedient servant,
Dr. King Kerr. WM. ST. C. SYMMERS.

The procedure to be followed is prescribed by Section 4 of the Infectious Disease (Prevention) Act, 1890, and at the earliest possible moment it will be followed; but as the basis of action is the report of the medical officer of health there may be some little delay and in the meantime the committee desires the public to be placed in possession of the facts at the earliest possible moment. It proposes to publish a chronological statement regarding the outbreak in due course. This statement does not purport to give the full details, The publication of this report has raised widespread dissatisfaction in Belfast:—1. Why are no names given and under such conditions how can the public safeguard themselves? 2. By giving no names good as well as bad dairies are unfairly blamed. 3 Why, if such a report reached the health committee on Oct. 6th, was the public told nothing until the evening of Oct. 8th? 4. Why was the sale of milk allowed to go on even after this report was received? 5. Why was it not stopped long ago when there was even a suspicion? Everyone feels for the unfortunate dairyman because an unrecognised mild case of typhoid fever among his employees has quite inadvertently been the cause of such a serious outbreak, but the public have nothing but severe censure for the weak, inept, and vacillating action of the public health committee of Belfast. It should have acted with promptitude instead of waiting for scientific proof so hard to establish in such cases.

Oct. 9th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Institute of Colonial Medicine.

THE Institute of Colonial Medicine, which has been established in order that French medical men may have facilities for acquiring a knowledge of tropical diseases, will commence its work on Oct. 15th. The duration of the courses will be about two and a half months. Theoretical instruction and laboratory demonstrations will be given at the Paris Faculty of Medicine (École Pratique, 21, Rue de l'École de Médecine) every week-day in the afternoon. Clinical instruction will be given at the Hôpital d'Auteuil, 93, Rue Michel-Ange, twice a week. The teaching staff of the Institute of Colonial Medicine is as follows: practical bacteriology and hæmatology, Professor Roger; parasitology, Professor Blanchard; surgery of warm climates, M. Morestin, professor *agrégé*; diseases of the eye in warm climates, Professor de Lapersonne; epidemiology of foreign countries, Professor Chantemesse; tropical pathology and hygiene, M. Wurtz, professor *agrégé*; and skin diseases, Professor Gaucher.

Ethical Rules applicable to Dispensaries.

The general council of the medical societies of the district of Paris and the Seine has received from M. Piot and M. Chandebois a report on behalf of the commission appointed at a meeting held last July. The report deals with ethical rules applicable to the work of the dispensaries and the recommendations made by M. Piot and M. Chandebois are as follows. 1. It is essential that dispensaries and similar institutions should be reserved solely for necessitous patients. 2. When patients who are able to pay fees receive free attendance repeatedly at dispensaries the medical society of the district in question (*arrondissement correspondant*) shall endeavour to put a stop to the abuse by making representations to the medical staff and inviting them as professional men to act in accordance with the principles accepted in the general interest by the general council of the medical societies. 3. Each medical society shall prepare a list of the dispensaries in its district, together with particulars as to their working and their financial position.

Dysentery at Toulon.

In consequence of the cases of dysentery which have occurred on board ships-of-war at Toulon the maritime prefect has informed the heads of departments and the commanders of vessels in the principal dockyard and the Arsenal du Mourrillon that no drinking-water is to be used except such as is specially supplied for this purpose and that no washing of any kind may be done near the supply-pipes (*pompes fontaines*). The turncocks and gendarmes have strict orders to see that these regulations are complied with.

Oct. 8th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Two New Hospitals in Vienna.

THE English system of providing funds for new hospitals by private munificence is gaining a firm hold also in Austria and two up-to-date institutions of this kind have been added to the number of those already available. One is devoted to internal and surgical diseases of children only and contains 100 beds. It is housed in a pavilion of the long existing Franz Josefs Hospital which was selected because it is situated in a poor neighbourhood. The new hospital is a gift by a private gentleman who gave the hospital committee full power to spend as much money as it thought necessary to obtain a first-class modern and practical institution. The hospital is therefore equipped with all the latest apparatus

Obituary.

ALEXANDER CROMBIE, C.B., M.D. EDIN., L.R.C.S. EDIN., L.S.A.,

BRIGADE SURGEON-LIEUTENANT-COLONEL, I.M.S.

THE news that Brigade-Surgeon-Lieutenant-Colonel Alexander Crombie died in London on Sept. 29th will be received with deep sorrow by all who knew him, not only in this country but also in India by the many friends amongst whom he spent so many years of his life, and where the greater part of his life's work was done. Dr. Crombie was the youngest son of Mr. David G. Crombie, of Kilminning, Fifeshire, and was born in December, 1845. After completing his early education at St. Andrews he went to Edinburgh to study medicine and graduated at that university, taking his M.B with honours in 1867 and his M.D. degree in 1870. In 1867 he also became L.R.C.S. Edin. Dr. Crombie was a Fellow of the University of Calcutta, an Associate of the Order of St. John of Jerusalem, and was created a Companion of the Bath (civil division) in 1902. Dr. Crombie entered the Army Medical Service on April 1st, 1871, taking first place in the competitive examination. He, however, resigned his commission in the following December, for the purpose of entering the Indian Medical Service, which he did in the following March, again obtaining the first place in the list of successful candidates for commissions.

Arriving in India in July, 1872, after a few months' regimental service, Dr. Crombie was appointed resident surgeon at the Calcutta Medical College and in 1873 was appointed lecturer on surgery and second surgeon to the hospital. In 1874 he became professor of materia medica and second physician. From February, 1875, until April, 1877, he held the appointment of civil surgeon at Rangoon and health officer of that port. At the last-named date he was transferred to the civil surgeoncy of Dacca where he was also superintendent of the medical school, the Mitford Hospital, and the lunatic asylum. He at the same time was in medical charge of the gaol. In April, 1880, he was transferred to the civil surgeoncy of Simla, a post which he held for two years, and then returned to his former post at Dacca, where he remained until 1888 when he was transferred to Calcutta to take up the appointment of surgeon-superintendent of the Presidency General Hospital, which post he held for ten years. During this time Dr. Crombie was engaged in a large practice, chiefly consulting work, as well as his onerous official duties. He retired from the service in 1898 and on leaving Calcutta was presented by his medical *confrères* in that city with a testimonial expressing the high esteem and affection in which they held him. On his return to England he practised his profession in London as a consulting physician. He was appointed a Member of the Medical Board at the India Office and filled that position for three years; he held the office of physician to King Edward VII.'s Hospital for Officers; and it was in recognition of his services to the sick and wounded officers who returned home from the Boer war that he received his C.B.

Dr. Crombie lectured on the Diseases of Tropical Climates at the Middlesex Hospital Medical School and also at the London School of Tropical Medicine. He was nominated by the Secretary of State for India to attend the international medical congresses at Moscow in 1897, at Paris in 1900, and at Madrid in 1903, representing India at those meetings. Dr. Crombie was the author of many very able papers on professional subjects. Special mention may be made of his treatises on "The Unclassified Fevers of the Tropics" and "Normal Temparature in India"; and his articles on "Sprue," "Hill Diarrhœa," "Congestion," and "Abscess of the Liver" in Allchin's Manual of Medicine. Dr. Crombie was a most painstaking physician, earnest and conscientious in his work, an able diagnostician, and a loyal and sympathetic colleague. He was a man of great breadth of view, whose opinion on other than professional matters was often sought and always willingly given, regardless of trouble or personal inconvenience. He was a thoroughly trustworthy man, who never failed one of the many friends whom he leaves to mourn their loss, a loss in which are involved not only relatives and friends but also the great service of which he was a distinguished member.

WILLIAM SPENCER WATSON, F.R.C.S. ENG., M.B. LOND.

Mr. William Spencer Watson of 44, Chepstow-place, W., who died on Sept. 17th at the age of 70 years, was the son of the late Dr. John Watson, who formerly practised for over 50 years in Bloomsbury. His student career was passed at King's College where he obtained the Warneford entrance scholarship and later the senior Warneford scholarship in medicine. He was elected an Associate of King's College in 1857 and admitted a Member of the Royal College of Surgeons in the same year. He took the M.B. Lond. (honours) in 1860 and the F.R.C.S. Eng. in 1862. Mr. Watson was for many years surgeon to the throat department of the Great Northern Central Hospital, and also to the Central London Ophthalmic Hospital and to the Royal Eye Hospital. He was the author of "Diseases of the Nose and its Accessory Cavities" which passed through two editions and was for many years a standard work, also of "Anatomy and Diseases of the Lachrymal Passages," "Abscess and Tumours of the Orbit," "Keratitis," and of numerous contributions to the journals and Transactions of the societies. He was a Fellow and formerly on the council of the Royal Medical and Chirurgical, Medical, and Ophthalmological Societies, and until a few years ago was in active consulting practice in Henrietta-street, retiring owing to failing health. An operation for cataract resulted in total blindness and for the last few years he had been a complete invalid. He was a member of the court of the Sadlers' Company and a Past Worshipful Master and until quite recently a regular attendant at the court where he delighted to meet his fellow liverymen, despite his infirmity of sight.

JOSEPH MAY, M.R.C.S. ENG., L.S.A., J.P.

Mr. Joseph May of Devonport died at Falmouth on Sept. 25th, in his sixty-ninth year. He was the older son of the late Alderman Joseph May, F.R.C.S., of Devonport, and received his medical education at Guy's Hospital, taking the qualifications of L.S.A. and M.R.C.S. Eng. in 1859 and 1861 respectively. For a short time he was an assistant surgeon in the Royal Navy. He was appointed medical officer of health of Devonport in 1874 and held the position until July, 1905, when he was appointed consulting medical officer to the Devonport sanitary authority. Mr. May was formerly surgeon-lieutenant-colonel in the 2nd Devon Volunteer Regiment. He was an earnest Churchman and for many years was a churchwarden at St. James's, Keyham. Mr. May had an extensive practice in Devonport and his death is much regretted there. He was one of the kindliest of men and a good friend to the poor. Much sympathy is felt in the "three towns" for Mrs. May, especially as their son died in June last at the age of 19 years.

JOHN HANCOCKE WATHEN, M.R.C.S. ENG., L.R.C.P. EDIN., L.S.A.,

ALDERMAN OF THE CITY AND COUNTY OF BRISTOL.

Mr. Wathen died at his residence at Sea Walls, Stoke Bishop, near Bristol, on Oct. 5th, in his sixty-second year. He was born at Fishguard, Pembrokeshire, and received his medical education at University College, London. His diplomas were M.R.C.S. Eng. taken in 1865; L.S.A. taken in 1866; and L.R.C.P. Edin. taken in 1867. After holding resident appointments at the West London Hospital and the Bristol General Hospital Mr. Wathen commenced practice at Clifton, being for some time in partnership with Dr. C. Steele. He was for several years medical officer to Clifton Wood Industrial School. He took a great interest in the Volunteer movement and a few years ago retired from the 1st Gloucester Volunteer Artillery with the rank of surgeon-major. He was elected for the Clifton ward of the Bristol town council in 1893 and in 1897 was created an alderman. Mr. Wathen took a great interest in church matters and in 1898 he was appointed a member of the church extension committee. He was highly popular in Clifton and Bristol and will be greatly missed by a wide circle of friends. Much sympathy is felt for his widow, who was a daughter of the late Sir George Edwards of Bristol.

20 paras (*1d.*), three pinches of powdered camphor, one pinch of cinnamon, and several cloves, all mixed together and swallowed in a tumblerful of water. Yaghourt (a word the European spelling of which varies a good deal) is made from ordinary milk by partial evaporation and subsequent addition of a small portion from a previous supply, so as to produce a peculiar fermentation. The *Levant Herald* states that the above-described remedy was used in the time of Sultan Mahmoud I. who reigned from 1730 to 1754. At that period the only dispensary in Constantinople was the still-existing so called Missir Tcharshi, or Egyptian bazaar.

Oct. 4th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

The Care of Weak-minded Children.

A LARGE and influential deputation, including members of medical, scientific, and charitable societies, waited on the Minister of Education of Victoria recently to urge the necessity of the State adopting measures for the care and education of weak-minded children. The Minister replied that while he recognised the merits of the proposal the difficulties were great. He would, however, make it a Cabinet question and also would confer with a committee representing the deputation.

Hospital Affairs.

The report read at the thirty-seventh annual meeting of subscribers to the Children's Hospital, Melbourne, stated that the number of in-patients during the past year was 1823 and that the attendances at the out-patients' department totalled 79,727, the latter number being an increase of 1692 over the previous year. The balance-sheet showed the receipts for the year on account of maintenance to have been £9378 and the expenditure £8635. Some of the speakers at the meeting complained of the action of the board of management of the Alfred Hospital in maintaining large wards for the reception of children and so overlapping the work of the Children's Hospital.—The twenty-fourth annual report of the Austen Hospital for Incurables stated that an unusually large number of patients had been admitted to the hospital during the past 12 months, the increase being only in part accounted for by the opening of the Kronheimer wing. The whole of the beds in the various wards were in constant occupation, all vacancies, as usual, being filled as soon as they occurred.—The annual report presented to the seventeenth annual meeting of the supporters of the Sanatoriums for Consumptives in Victoria showed that during the year 134 males and 100 females had been admitted, and that during the same period 71 males and 48 females had either recovered or were improved. The average stay of a male patient was 95 days, while that of a female was 92 days. The cost of maintenance was £4525, making an average cost per patient of £75.—The alleged abuse of hospitals in Melbourne has recently been discussed in the press. The inspector of charities maintained that means existed for preventing abuse and for imposing penalties in cases of imposition. Every patient has to sign a declaration that he is unable to pay the ordinary medical and nursing fees. In the event of an incorrect declaration the amount due can be recovered in court or under the Police Offenders Act imposition may be charged, which may entail imprisonment. But what is meant by "inability to pay ordinary fees"? The inspector's own view of ordinary fees is erroneous.—The following new by-laws have been made by the board of directors of the Sydney Hospital:—

> Honorary medical officers who have served the institution for a period of not less than 12 years shall be eligible for election as honorary consulting medical officers, and in the event of any honorary consulting medical officer being re-elected as an honorary medical officer he shall *ipso facto* cease to be an honorary consulting medical officer.
>
> The naval medical officers of His Majesty's fleet serving on the Australian station may be appointed by the board to be "honorary consulting medical officers to seamen."
>
> Such officers to have the right of visiting seamen of His Majesty's navy whilst in hospital, and to be attached to, but not to form part of, the honorary medical staff of the institution.

—The committee of the Newcastle Hospital, New South Wales, has served on the medical superintendent a month's notice to dispense with his services. The trouble arose through the vice-president issuing an order that the medical superintendent should not be absent from the hospital at the same time as the registrar. The superintendent resented this "unauthorised mandate," as he termed it, and appealed to the committee; he said it would obviate unpleasantness if he could attend their meetings at will and not only when arraigned before a "court of Star Chamber."

An Unregistered Practitioner Fined.

At the Macarthur police court, Victoria, a man was prosecuted for pretending to be a doctor of medicine and practising as such. Evidence was given to show that he had bills printed containing the words, "Dr. Reville, M.D.," and that he treated patients and was paid for his advice. He pleaded guilty and was fined £10 and costs. He produced a diploma from the "International University of Chicago" but said that it was not registrable in Victoria.

Patent Medicines.

The following motion has been agreed to in the House of Representatives of the Commonwealth:—

> That in the opinion of this House, in the interest of the health of the community of Australia, it is desirable that all patent or proprietary medicines, all infantile and artificial foods, all medical and surgical appliances which purport to cure or alleviate any disease to which the human frame is subject, should be critically examined on entry into the Commonwealth—(*a*) to ascertain their contents and composition; (*b*) to ascertain their value from a curative standpoint, (c) to ascertain their value as a food; (*d*) to ascertain their value as remedial agents.

The motion also provided that descriptions of the composition of each article should appear on the packages and that it should be punishable to make false statements in this regard.

Death from an Overdose of Podophyllin.

An inquest has been held on a man who obtained from a druggist three-pennyworth of podophyllin pills and three-pennyworth of podophyllin powder. He took the whole—about 18 grains of podophyllin—and became very ill and died. The medical evidence showed that the cause of death was an overdose of podophyllin. The drug is not scheduled as a poison in the meaning of the Poisons Act. The coroner was of opinion that the druggist should have safeguarded the sale of such a dose which he ought to have known to be poisonous.

A Midwife Sentenced for Manslaughter.

A woman, aged 73 years, practising as a midwife, was found guilty of manslaughter at the Melbourne General Sessions and sentenced to 12 months' imprisonment. A young married woman whom she had attended in a confinement died from blood poisoning. The judge said the evidence showed that the woman had shown either utter disregard of her duty or want of knowledge to such an extent that the person who had entrusted herself to the prisoner's care lost her life.

Preservatives and Colouring Substances in Butter.

The Board of Public Health of Victoria has adopted a number of regulations concerning milk, butter, and meat. The standard for butter is that it shall contain not less than 80 per cent. of milk fats or more than 16 per cent. of water. Boron compound (estimated as boric acid) or saltpetre may be added to butter as a preservative substance in a proportion not exceeding 0·25 per cent. of its weight. Harmless vegetable colouring is allowed but the use of sesame oil or foreign fat or any other preservative than set forth is prohibited.

Medical Men and Friendly Societies.

A committee, consisting of the presidents and secretaries of the various local medical associations of New South Wales, has drawn up a draft of a model agreement to be used in taking positions as lodge surgeons.

Sept. 6th.

TORQUAY INFECTIOUS DISEASES HOSPITAL.—The annual report of this institution, which has just been issued, shows that during 1905 there were 36 cases of infectious diseases admitted, 27 of these being cases of scarlet fever. No death occurred. The average stay of each patient was 41 days. The expenditure in connexion with the institution was £541 compared with £507 in 1904, when 27 cases were treated. The Cockington hospital was opened during the year for one case of small-pox. The patient was under treatment for 48 days at a cost of £45. The total cost of the maintenance of this hospital during the year was £97.

Stranaghan Harbinson (M.), Michael Harkin (A. P.), Stephen John *Henry* (A., P., M.), James Hall *Hislop* (A., P., M.), William Alexander Hislop (A., P., M.), Benjamin Hutchison (M.), Walter Hermann Kiep (M.), Thomas Joseph Kirk (P.), John Lang (M.), *Daniel* Conway M'Ardle (A.), Angus Macaulay (P., M.), Alexander Macphail Macdonald (A., P.), William M Kendrick (A.), Francis William Mackichan (P., M.), William Campbell Mackie (A.), Alexander M'Kinnon (P.), John James Mackintosh (A., P., M.), James Walter M'Leod (M.), John MacMillan (M.), Allan M'Pherson (P., M.), Murdo M'Kenzie M'Rae (P., M.), Andrew Maguire (A., P), William Aubrey Layard Marriott (P.), Frank Needham Marsh (A., P., M.), Kenneth Chisholm Middlemiss (M.), Robert Wright Mitchell (A., M.), John Mowat (P.), James Muir (A.), *William Aikman Muir (M.), Charles Sutherland M'Kay Murison,* (M.), Archibald Naismith (M.), Watson Noble (P., M.), David Purdie (A.), Edward Quigley (A., P., M.), *Richard* Rae (M.), Henry Nimmo Rankin (P., M.), Nicol M'Nicoll Rankin (M.), Hugo Given Robertson (A., M.), Allan Semple (P., M.), James Brown Sim (M.), Alexander Hunter Sinclair (M.), James John Sinclair (P.), Donald Stewart (A.), Edward Ernest Stewart (P.), *David Taylor* (M.), *Walter Telfer* (P.), John Shedden Thomson (A., M.), Arthur Turnbull, M.A. (A., P.*), Robert Macnair Walker (M.*), David M'Gruther *Wilson* (A.), John Alexander Wilson (A.), William Mitchell Turner Wilson (A., P., M.), John Youngson Wood (P., M.), Hugh Young (A., M.), and John Young (A., P.).

Women. Margaret Baird Sproul *Darroch* (M.), Euphemia Adamson Hay (P.), Jessie Deans Rankin (A.), Olive Robertson (A., P.), Jessie Caple Russell (M.), and *Jeanie Hinshaw Stewart* (P.).

The following have passed the third professional examination for the degrees of M.B. and Ch.B. in the subjects indicated (P., Pathology; and M., Medical Jurisprudence and Public Health):—

Murdo Buchanan (P., M.), James Cairncross (P.), John Craig Crawford (P.), Neilson Davie (M.), James Cowie Dick (P.), James Dunbar (P.), William Hunter Duncan (P., M.), Allan Dunsmuir (P.), Alexander Wylie Eadie (M.*), William Marley Elliott (M.), John *Ferguson* (M.), Thomas Forsyth (P.), George Muir Fraser, M.A. (P., M.), Samuel Nicol Galbraith (M.), David Gibson (P., M.), John Vincent Grant (P., M.), *James Dow Gray* (P., M.), David Hamilton (P., M.) Alexander Mills Kennedy (P., M.), Charles Lawson Kerr (P., M.), James Towers Kirkland (M.), *George Ligertwood* (M.), Alexander Tulloh Inglis Macdonald (M.), James M'Donald (P., M.), Neil MacInnes, M.A. (P., M.), Robert M'Inroy (M.), *Joseph Bogue* Mackay (P., M.), Thomas Cooper Mackenzie (P.), James Hogg Martin (M.), William Spence Melville (M.), John Clark Middleton, M.A., B.Sc. (P.,* M.*), Allan Frederick Miller (M.), John Wilson Miller (M.), Thomas Miller (M.), John Oswald (P., M.), Daniel M'Kinlay Reid (P., M.), Thomas David Coulthard Ross (P., M.), James Alexander Stenhouse (M.), John Stewart, M.A., B.Sc. (P., M.), John Martin *Taylor* (M.), *David Alexander* Thomson, M.A. (P., M.), Hugh Johnstone Thomson (M.*), John Archibald Thomson (P., M.), Thomas Macnight *Watt* (P.), *John Weir* (P., M.), David John Williams (M.), Garabed Yeghia Yardumian (P.), and Matthew Young (P.,* M.).

Women.—Margaret *Gardner* Forrest (P., M.), Ella Smith Hill, M.A. (P., M.), Annie M'Crorie (M.), Janet Annie Maeves (P., M.), and Jane Isabel Robertson, M.A. (M.).

* Passed with distinction in the subjects indicated.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Max Henkel, *privat-docent* of Midwifery and Gynæcology, has been granted the title of Professor.—*Budapest:* Dr. L. Nékám has been recognised as *privat-docent* of Dermatology.—*Florence:* Dr. Enrico Burci has been appointed Professor of Clinical Surgery.—*Heidelberg:* Dr. Gottlieb Port has been appointed Extraordinary Professor of Odontology.—*Kazan:* Dr. V. Osipoff of St. Petersburg has been appointed Extraordinary Professor of Psychiatry.—*Naples:* Dr. Elia Testa has been recognised as *privat-docent* of External Pathology and Dr. Gennaro Gallo De' Tommasi as *privat-docent* of Children's Diseases.—*Rome:* Dr. Raffaello Giani of Turin has been recognised as *privat-docent* of External Pathology.—*Turin:* Dr. Girolamo Scagliosi of Palermo has been recognised as *privat-docent* of Pathological Anatomy.

ROYAL SANITARY INSTITUTE.—A provincial sessional meeting of the Institute will be held at the Royal Pavilion, Brighton, on Saturday, Oct. 27th, at 11 A.M., when a discussion will take place on "Coördination of Measures against Tuberculosis." The discussion will be opened by Sir William H. Broadbent; to be followed by Dr. G. A. Heron; Dr. Louis C. Parkes, medical officer of health of Chelsea; Dr. John Robertson, medical officer of health of Birmingham; Dr. E. C. Seaton, medical officer of health of Surrey; Dr. F. R. Walters; and Dr. W. G. Willoughby, medical officer of health of Eastbourne. General discussion is invited. Dr. A. Newsholme will give a short account of local arrangements for the notification of pulmonary tuberculosis and the sanatorium training and treatment of patients. The chair will be occupied by Colonel J. Lane Notter, R.A.M.C. (chairman of council of the Institute). Tickets for admission of visitors may be had on application to Dr. Newsholme, medical officer of health, Town Hall, who is acting as the local honorary secretary of the meeting, and of Mr. E. White Wallis, secretary.

LONDON HOSPITAL MEDICAL COLLEGE.—The following entrance scholarships in arts have been awarded: Buxton scholarship (value £30), J. W. Clouston; and Buxton scholarship (value £20), L. M. Ladell.

ROYAL LONDON OPHTHALMIC HOSPITAL.—A special donation of £1000 has been received by the Royal London Ophthalmic Hospital from Mr. Henry Veasey, F.R.C.S. Eng., for the perpetual endowment of a bed.

AN UNCERTIFICATED MIDWIFE.—A woman of Totterdown, Bristol, was summoned at the Bristol police court on Oct. 5th for acting as a midwife without being certificated, contrary to the provisions of the Act. Evidence showed that the woman had been employed as a midwife for years and had her name on a brass plate attached to her house but had never been registered. The coroner had cautioned the defendant when she had appeared before him at inquests. She was now warned that she must not go on practising as a midwife and as it was the first case in Bristol she was only fined 5*s.* and costs.

THE INFANTS' HOSPITAL.—From the time of the establishment of the Infants' Hospital in Hampstead in 1903 it has been the intention of the committee to remove to more commodious premises in a more central situation as soon as a convenient opportunity and sufficiency of financial support offered themselves. In the early part of the present year active inquiries were instituted with a view of finding suitable premises which have resulted in the acquisition of a site in Vincent-square, Westminster, at the corner of Alfred-street, a long lease being granted by the Ecclesiastical Commissioners. The new hospital will comprise accommodation for some 50 or more infants, together with adequate accommodation for the nursing staff, pathological laboratories, post-mortem room, lecture theatre, &c. The whole cost of the site, together with the building and equipment of the hospital, is being defrayed by Dr. Ludwig Mond and his son Mr. Robert Mond.

LITERARY INTELLIGENCE.—A new monthly magazine, in the interests of literature generally, will be issued shortly under the title of "The Amateur Journalist and Literary Aspirant." It will be edited by Mr. Oliver McEwan, director of the British School of Journalism, 97, New Bond-street, London, W., who has been a journalistic coach for nearly a quarter of a century. He will be assisted by several well-known writers, and a feature of the journal will be that nearly every article, story, and illustration will be the first published efforts of new writers and black and white artists.—Messrs. Baillière, Tindall, and Cox announce the following new works and new editions to be published during this week: "Questions and Answers on Midwifery for Midwives," second edition, by A. B. Calder; "Röntgen-Rays in Medical Practice," by Higham Cooper; "High-Frequency Currents," by Evelyn Crook; "Enlargement of the Prostate," third edition, by P. J. Freyer; "Lectures on Diseases of the Lungs," second edition, by J. Lindsay; "Syphilology and Venereal Disease," by C. F. Marshall; "Retro-Peritoneal Hernia," second edition, by B. G. Moynihan; "The Sigmoidascope," by P. L. Mummery; "Enteric Fever," by E. Roberts; "Nature and Treatment of Cancer," fourth edition, by J. A. Shaw-Mackenzie; "Manual of Chemistry," eighth edition, by W. Simon; "Clinical Studies of Nutritional Disorders of Infancy," by Ralph Vincent; "Minor Maladies," by L. Williams; and "Handbook of the Hospital Corps of the United States Navy and Army," by C. F. Mason.—The Calendar of the University of London for 1906–07 is now on sale. As in previous years it is published in three volumes. Vol. I. (pp. 636, 5*s.* net) contains a history of the University, constitution, *personnel*, statistics, register of students and graduates, honours lists, and regulations for matriculation. Vol. II. (pp. 938, 5*s.* net) contains full information of the internal work of the University, including descriptions of schools of the University and regulations for degrees for internal students; together with particulars of the work of the University Extension Board. Vol. III. (pp. 554, 2*s.* 6*d.* net, post free) contains the regulations for degrees for external students, including the *revised* regulations in arts under which certain science subjects may be taken at the intermediate and final (pass) examinations. It should be noted that the list of subjects and the rules for the choice of subjects in arts examinations

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen have passed the first examination of the Board in the subjects indicated:—

Chemistry and Physics.—Isaac Barnett Bernstein, Leeds University; Alured Charles Lowther O'Shee Bilderbeck, St. Bartholomew's Hospital (exempt Physics); George Martin Chapman, Otago University and London Hospital; Willoughby Gordon Grant, London Hospital; Spencer Frederick Harris, Middlesex Hospital; Arvor Jones, University College of North Wales, Bangor; William Morgan Langdon, Guy's Hospital; Reginald Kinloch MacGregor, St. Bartholomew's Hospital; Pestanji Manekji Masina, B.A., Bombay University and University College (exempt Physics); Guy Malcolm May, King's College Hospital; Malcolm Melton Melrose, Manchester University; Sumner Hugh Smith, King's College; Lionel Charles Watkins-Baker, University College, Bristol; and James Ernest Studholme Wilson, London Hospital.

Biology.—James Alfred Avton Boddy, Manchester University; George Martin Chapman, Otago University and London Hospital; Dunstan Thierry Corke, London Hospital; Emmanuel de Meza, London Hospital; Maurice Dwyer, Leeds University; William Henry Edmonds, Guy's Hospital; Frank Garratt, University College; Ivor Robert Hudleston, University College, Bristol; Frank Mainwaring Hughes, London Hospital; Donald Henry McDonald, Birkbeck College; Owen David Baker Mawson, London Hospital; John Caspar Munch, London Hospital; and John Basil Robinson, London Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—In the Preliminary Science Examination for the Licence in Dental Surgery the following gentlemen passed in Chemistry and Physics:—

James Fernandez Howard Clarke, Charing Cross Hospital; Robert Hodgson, Birmingham University; Linthall Harry Leatherby, Charing Cross Hospital; and James Roy Williams, Technical School, Manchester.

SOCIETY OF APOTHECARIES OF LONDON.—At the primary examinations the following candidates passed in the subjects indicated:—

PART I.

Chemistry.—A. Jonathan, Royal Free Hospital.

Materia Medica and Pharmacy.—A. Jonathan, Royal Free Hospital; H. S. Naylor, Leeds; and D. L. Schwabe and A. Singha, Royal Free Hospital.

PART II.

Anatomy.—E. W. Archer, St. Mary's Hospital; G. K. Aubrey, King's College Hospital; A. Baxendale, Manchester; J. Brearley, Leeds; E. C. Brisco-Owen, Cardiff; F. C. Eberhardt, Edinburgh and Birmingham; and M. Remers, Manchester.

Physiology.—G. K. Aubrey, King's College, Hospital; E. C. Brisco-Owen, Cardiff; F. C. Eberhardt, Edinburgh and Birmingham; and G. S. Richardson, Leeds.

At a meeting of the Master, Wardens, and Court of Assistants of the above Society held at their hall on Oct. 9th the honorary freedom of the Society was conferred upon Mr. Alderman and Sheriff T. B. Crosby, M.D., who is a Licentiate of the Society. The Master (Mr. E. Parker Young) and Wardens subsequently entertained at dinner Dr. Crosby, the members of the Court of Examiners, the Deans and Wardens of the metropolitan schools of medicine, and a large number of the Livery of the Society.

UNIVERSITY OF DURHAM.—At the Convocation held on Sept. 29th the following degrees and diplomas were conferred:—

Doctor in Medicine.—Lewis Augustus Clutterbuck, M.B., B.S. Durh.; Sophia Bangham Jackson, M.B., B.S. Durh.; Philip William James, M.B. Durh.; Thomas Corrie Rutherfoord, M.B., B.S. Durh.; William Simpson, M.B., B.S. Durh.; and John Aston Swindale, M.B., B.S. Durh.

Doctor in Medicine for practitioners of 15 years' standing.—Alfred James Glanville Barker, M.R.C.S. Eng.; Frederick James Brown, M.R.C.S. Eng., L.S.A.; James Douglas Cree, M.R.C.S. Eng., L.R.C.P. Lond.; Thomas Leslie Crooke, L.R.C.P. & S. Edin.; Edward John Cross, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H.; Henry Matthew Dobbs, M.R.C.S. Eng., L.R.C.P. Lond., L.S.A.; Edward Ellis, James Edwards, L.R.C.P. & S. Edin., D.P.H.; Joseph William Gill, M.R.C.S. Eng., L.R.C.P. L.R.C.P. & S. Edin., Lond., D.P.H.; Frederick Maurice Graham, F.R.C.S. Edin., L.R.C.P. Edin., L.F.P.S. Glasg.; Charles Robert Mortimer Green, F.R.C.S. Eng., L.R.C.P. Lond., L.S.A., D.P.H.; Hubert Joslen, M.R.C.S. Eng., L.R.C.P. Lond.; Arthur Beresford Kingsford, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H.; Robert Bowraight Lauder, F.R.C.S. Edin., L.R.C.P. Lond., D.P.H.; James Menzies, L.R.C.P. & S. Edin., L.F.P.S. Glasg.; Charles John Sharp, M.R.C.S. Eng., L.R.C.P. Lond.; Arthur George Southcombe, M.R.C.S. Eng., L.R.C.P. Lond., D.P.H.; and George Gordon Stuart, L.R.C.P. & S. Edin., L.F.P.S. Glasg.

Master in Surgery.—Thomas Young Simpson, M.D., B.S. Durh., M.R.C.S. Eng., L.R.C.P. Lond., London Hospital.

Bachelor in Medicine (M.B.) and Bachelor in Surgery (B.S.—Vincent Edgar Badcock and George Denholm, College of Medicine, Newcastle-upon-Tyne; Reginald Inglis Douglas, M.R.C.S. Eng., L.R.C.P. Lond., St. Bartholomew's Hospital; Neville Avory Eddlestone, College of Medicine, Newcastle-upon-Tyne; Florence Barrie Lambert, College of Medicine, Newcastle-upon-Tyne, and London School of Medicine for Women; Arthur Cecil Hays McCullagh and Ernest Martin, L.R.C.P. & S. Edin., L.F.P.S. Glasg., College of Medicine, Newcastle-upon-Tyne; Bertha Mary Mules, London School of Medicine for Women; Jessie Jean Martin Morton, Edinburgh School of Medicine for Women; Sidney Nix, L.R.C.P. & S. Edin., L.F.P.S. Glasg., St. Mary's Hospital; Frederick Charles Pybus and George Robert Phillipson, College of Medicine, Newcastle-upon-Tyne; Donald Murray Ross, St. Thomas's Hospital; and Thomas Leathard Wormald, College of Medicine, Newcastle-upon-Tyne.

Bachelor in Hygiene (B.Hy.).—Isaac Thompson, M.B., Ch.B., New Zealand.

Diploma in Public Health (D.P.H.).—Isaac Thompson, M.B., Ch.B. Edin., New Zealand; and John Henry Tripe, M.R.C.S. Eng., L.R.C.P. Lond.

UNIVERSITY OF GLASGOW.—The following have passed the first professional examination for the degrees of M.B. and Ch.B. in the subjects indicated (B., Botany; Z., Zoology; P., Physics; and C., Chemistry):—

David Rutherford Adams (P.*), James Browning Alexander (B.), John Campbell Hill Allan (B., Z.), William Anderson (P.), Alexander John Archibald (C.), Charles Auld (P.), Robert Blackie Austin (B., Z., P., C.), Alexander Baird (P.), William Egon Halman Beard (B., P.), James Elliot Black (B., Z., P., C.), Archibald M'Allister Blackwood (P.), John Bower (Z., P.), James Turner Brown (P., B.*), Robert Archibald Brown (Z.), Samuel Bryson (Z.,* P.), James Alexander Stewart Burges (B., P.), John Cameron (B., Z., P.), John Archibald Steele Campbell (P., C.), Thomas Simpson Campbell (B., C.), George Wilson Clark (B., Z.), James Alphonsus Joseph Conway (B., P.), James Headrick Coulter (Z.), James Maclaren Dawson (Z.), Robert Hunter Deans (B., P.), John Nairn Dobbie (B.), Peter Drummond (C.*), Robert Drummond (B., P.), Alexander Moffat Dunlop (C.), James Dunlop, M.A. (B.), Andrew Scobie Findlay (B.), James Findlay (Z.), Robert Findlay (B., P.), Hugh Forrest (B., P.*), Thomas Lochhead Fraser (P., C.), David Thomas Crichton Frew (Z.,* C.*), Andrew Garvie (B., P.*), Nicolas Gebbie (B., P.*), Adolph Robert Hanns Geyer (B., P.), Pietro Giuliani (Z., C.), John Gray (P.*), George Cyril Griffiths (B., P.), Archibald Campbell Haddow (B., Z., P., C.), John Reid Haldane (B., Z., P.), James Harper, M.A. (C.), James Hendry, M.A. (B.,* P.*), Peter Henretty (P.), William Howat, M.A. (C.*), William Hunter Howat (C.), James Jack (B., P.,* C.*), Cochran Johnston (C.), Walter Haddow Kay (B.), Charles Joseph Kirk (B.), Alexander Kirkhope (B., P.), John M'Callum Laug (B., P.), George Smith Livingston (B., P.), Donald Christopher Macdonald (B., P.), Ian Macdonald (Z.), Donald M'Intyre (Z.), Balfour M'Kean (B., P.), Thomas Jones Mackie (B.,* P.*), James David Mackinnon (B., P.), Murdo Mackinnon (P.), Andrew Bruce MacLean (B.,* P.*), Archibald M'Leod (Z., P.), William Alexander Maclennan (P., C.), Campbell Macmillan (P.), William M'Murray (B., P.), Stephen Anderson MacPhee (B., P.), John Pearson M'Vey (B., P.), Alexander Thomson M'Whirter (B., P.), Malcolm Manson (B., P.), Francis William Martin (C.), Ralph Millen (B.), John Mitchell (B.), Neil Morison (B.), Andrew Ross Muir (B., P.*), Michael John Murray (B., Z., P.), Hugh Loudon Neil (B., P.), John Paterson (B., Z., P., C.), Thomas Paterson (B., Z., P., C.), John Penman (B., Z., C.), Arthur Poole (Z., P.), Arthur Stanley Richmond (B., P.), Daniel Wright Ritchie (B., P.*), Alexander Forbes Ross (C.), John Ivison Russell (B., Z., P., C.), John Livingstone Scott (P.), James David Speid Sinclair (P., C.), William Sneddon (B., Z., P.), George Rae Spence (C.), John Stewart (B., P.), John Alexander Stewart (B.), Thomas Louis Grenet Stewart (C.), Gilbert Innes Strachan (B., P.,* C.), John Norman Sutherland (Z.), William Taylor (B., P.), Stephen Veitch Telfer (B., Z.), Edward Napier Thomson (Z., P.), James Douglas Walker (B., P.*), John Cuthbertson Walker (P.), Alexander Guthrie Semple Wallace (B., P.), Thomas Walmsley (B., P.), Egerton Carl White (B., Z., P.), William Herbert Nairne White (Z.), Thomas Whitelaw (B.), Harold Edward Whittingham (C.*), Herbert Matthew Williamson (Z.), James Williamson (Holytown) (B., Z.), Alexander Stewart Wilson (B., P.*), Douglas Wilson (B., P.), George Jackson Wilson (B., P.), Hugh Gilmer Wilson (B., Z.), William Richard Wiseman, M.A., B.Sc. (B., Z.), John Crawford Wood (B., Z.), Henry Yellowlees (B., Z., P.,* C.), and Fergus Hay Young (B., P.).

Women.—Mary Alexander (B., Z.), Agnes Barr Auchencloss (B., Z.), Isabel Inglis (B., Z.), Katherine Stewart Macphail (B., Z.), Jeanie Douglas M'Whirter (Z.,* C.), Barbara Grace Rutherfurd (B., Z.*), Florence Elizabeth Sexton (B., Z.*), Isabel Jane Stark (B., Z.), Mary Buchanan Thomson (B.), Jemima Wallace (C.), and Marion Aitken Wylie (Z., C.).

The following have passed the second professional examination for the degrees of M.B. and Ch.B. in the subjects indicated (A., *Anatomy*; P., *Physiology*; and M., *Materia Medica and Therapeutics*):—

John Andrew Aitken (P.), David Anderson (M.), Donald Arbuckle (P.), Thomas Archibald (M.), William Hunter Stirling Armstrong (M.), James Currie Auchencloss (P., M.), Alexander Ballantyne, M.A. (P.), William Barr (A.), Charles Bennett (A., P., M.), John Blakely (M.), John Lindsay Boyd (M.), Charles Brash (P.), William Barrie Brownlie (M.), David Young Buchanan (A., P., M.), Hector Mackay Calder (M.), John Cameron (M.), Matthew Ignatius Thornton Cassidy (M.), Donald James Clark (A., M.), James Cook (Coalburn) (A., P.), James Cook (Partick) (M.), Walter Dawson (A., M.), Thomas Loudon Fleming (M.), Thomas Scott Forrest (A.), William Leonard Forsyth (M.), John Fotheringham, B.Sc. (M.*), William Ernest Gemmell (P.), Alexander Thomas Arthur Gourlay

Bradford, Royal Infirmary.—House Physician. Also House Surgeon. Salaries £100 per annum, with board and residence.

Bury St. Edmund's, West Suffolk General Hospital.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

Canterbury, Kent and Canterbury Hospital.—House Surgeon, unmarried. Salary £90 a year, with board and lodging.

Cape Town, Somerset Hospital.—Assistant Resident Medical Officer. Salary £250 per annum, with quarters and rations.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, lodging, and washing. Also Pathologist. Salary 100 guineas per annum.

Durham County Hospital.—House Surgeon. Salary £120, with board and lodging.

Evelina Hospital for Sick Children, Southwark.—House Physician and House Surgeon. Salary £80 respectively, with board, residence, and washing. Also Assistant House Surgeon. Salary £70, with board, residence, and washing.

Gordon Hospital for Fistula, &c., Vauxhall Bridge-road, S.W.—Resident House Surgeon. Also Surgeon to Out-patients.

Hospital for Women, Soho-square, W.—House Physician for six months. Salary £20.

Kensington Guardians.—Medical Officer for No. 3 Relief District. Salary £100 per annum and fees.

Leeds, Hospital for Women and Children.—House Surgeon for six months. Salary at rate of £50 per annum, with board, &c. Also Resident Clinical Assistant for three months.

Leicester Infirmary.—Assistant House Surgeon. Salary £50 per annum, with board, apartments, and washing.

Lincoln County Hospital.—Junior House Surgeon (unmarried) for six months. Honorarium £25, with board, residence, and washing.

Margate, Royal Sea Bathing Hospital.—Resident Surgeon.

Medical Department of the Royal Navy.—Examination for not more than Six Commissions.

Miller Hospital and Royal Kent Dispensary, Greenwich-road, S.E.—Anæsthetist (Honorary).

New Hospital for Women.—Senior Assistant in the Out-patient Department, Senior Assistant to the Ophthalmic Department, and Two Clinical Assistants, all females.

Nottingham, City Asylum.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, &c.

Poplar Hospital for Accidents, E.—Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board and residence.

Royal College of Physicians of Edinburgh.—Superintendent of the Laboratory.

Saint Leonard, Shoreditch, Infirmary.—Second Assistant Medical Officer. Salary £100 per annum, with rations, washing, and apartments.

Salford Royal Hospital.—Accident House Surgeon and Junior House Surgeon. Salaries at rate of £60 and £50 per annum respectively, with board and residence.

Southampton, Royal South Hants and Southampton Hospital.—House Physician. Salary £100 per annum, with rooms, board, and washing.

Stamford Hill and Stoke Newington Dispensary.—Junior Resident Medical Officer. Salary £100 a year with apartments and board.

Tottenham Hospital, London, N.—House Surgeon, House Physician, and Casualty Officer. Salaries £90, £60, and £40 per annum respectively, with residence, board, and laundry.

Windsor and Eton Royal Dispensary and Infirmary.—House Surgeon, unmarried. Salary £120 per annum, with residence, board, laundry, and attendance.

Wolverhampton and Staffordshire General Hospital.—House Physician. Salary £100 per annum, with board, lodging, and laundry. Also House Surgeon. Salary £100 per annum, with board, lodging, and laundry.

The Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the *Factory and Workshop Act* at Woburn Sands, in the county of Buckingham, and at Arnesby, in the county of Leicester.

Births, Marriages, and Deaths.

BIRTHS.

Archer.—On Oct. 7th, at Hamlet Court-road, Westcliffe, Essex, the wife of Archibald Archer, L.D.S. Eng., of a son.

Booker.—On Oct. 1st, at Witley, Surrey, the wife of Charles W. Booker, F.R.C.S., of a daughter.

Gill.—On Sept. 12th, 1906, at Murree, Punjab, India, the wife of Captain Clifford A. Gill, of a son.

DEATHS.

Braden.—On Oct. 4th, at his residence, "Alethia," Shelford, J. G. Braden, M.R.C.S., L.S.A., after many months of suffering, borne with great patience. Dearly loved and deeply lamented. Sussex papers please copy.

Wathen.—On Oct. 5th, at Sea Walls, Stoke Bishop, John Hancocke Wathen, M.R.C.S., L.R.C.P., in his 62nd year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

CONCERNING BODIE.

We take the following cutting from the *Daily Telegraph* of Oct. 10th:—

> CANTERBURY.—DR. BODIE. DR. BODIE. DR. BODIE.—SPECIAL NOTICE.—On SUNDAY NEXT, Oct. 14, 1906, a LECTURE and Demonstration will be given by this well-known exponent of BLOODLESS SURGERY, Dr. WALFORD BODIE, M.D.C.M. U.S.A., F.R.M.S. London, entitled, "WHAT IS A MIRACLE?" Hypnotism v. Scientific Medicine, Christian Scientists v. The Peculiar People. The whole of the proceeds will be given to the Waterloo Hospital for Women and Children, and will be under the patronage of the leading Professors, Doctors, and Clergy of London. On this special occasion Dr. Walford Bodie will introduce many of his London cures and will endeavour to illustrate and demonstrate "A MODERN MIRACLE." Prices of admission: Fauteuils, 1s.; pit and balcony, 6d. Doors open at seven o'clock. Commence 7.30 prompt. Carriages may be ordered at nine o'clock.

We learn that the authorities of the Waterloo Hospital for Women and Children are no parties to these proceedings, and that any hospital should consent to take money gained by the performances of a swindling quack we cannot believe. It will be remembered that it was proved in court that one of "Dr." Walford Bodie's "cures" was a man who pretended to be ill and pretended to be cured. We refer the authorities of the Waterloo Hospital to what we said about Bodie in The Lancet of August 11th, 1906, p. 415, and May 26th, 1906, p. 1512. As for the performance being under the patronage of the "leading professors, doctors, and clergy in London" that we take to be simply an untruth.

THE FEES OF A LOCUM TENENT.

To the Editors of The Lancet.

Sirs,—A short time ago I acted as locum for A who went away. Another doctor, B, in the same town asked me to do a post mortem. I did this and gave evidence. Later, B handed me a guinea, saying that he wished me to have it. Since then I disagreed with B about other matters and now A writes to say that he (A) should have the guinea. I shall be interested to read your view of the matter if you will be so kind as to give an opinion.

I am, Sirs, yours faithfully,

Oct. 5th, 1906. Surprised.

⁂ We are ignorant of the terms of the contract under which "Surprised" undertook to fill A's place. As a rule, a *locum-tenent* gets so much per week and all fees which he earns during his locum-tenency are taken by the practitioner whose deputy he is.—Ed. L.

OMNE IGNOTUM PRO MAGNIFICO.

To the Editors of The Lancet.

Sirs,—I wonder if I should be trespassing upon your valuable space in narrating an event which happened to me to-day? I met and recognised a woman in the street who some years ago was an in patient at a metropolitan hospital of which I was a resident. I asked her after her health and she told me she was suffering from heart disease. I interrogated her as to whether she had sought advice. She answered in the affirmative and stated that she had been to the same hospital where she had been an in-patient. Upon being asked whether the doctor had told her she had heart disease she answered in the negative. I asked her accordingly how she knew. She said she read it in her out-patient book but had never heard of the disease and did not know how to pronounce it. I told her to spell it and she slowly spelled out the fateful words—Heart: Nil.

I am, Sirs, yours faithfully,

Oct. 8th, 1906. B. H. C.

THE INADEQUACY OF THE TELEPHONE SERVICE.

To the Editors of The Lancet.

Sirs,—Now that the telephone service has been thoroughly (although very belatedly) installed in London and has been in work some years the public might reasonably expect a fairly efficient service. What do the public, however, usually receive for a very highly charged service? It is generally a work of considerable time, if indeed it is accomplished at all, to get through from one exchange to a subscriber on another. It is beyond doubt that to get through from a post office exchange to a subscriber on a Gerrard (which is a National Telephone exchange) is almost hopeless; at least, that is my experience after numerous complaints to the authorities, and the only means is to ring up the clerk in charge. This costs two fees instead of one. It may be the inadequacy in the number of exchange lines or the preoccupied time of the young lady at the exchange.

This is not, perhaps, of vital consequence (beyond loss of temper), excepting in cases of serious illness; then in the interests of the community the call should become next in precedence to a fire call. I would humbly offer these suggestions to the authorities—that some distinct call should be used in ringing up either to or by a doctor and that in these cases the young ladies at the exchange should be requested to get the call through with expedition.

I am, Sirs, yours faithfully,

Oct. 5th, 1906. A General Practitioner.

are not the same for internal and for external students but Latin or Greek is compulsory at the intermediate and final (pass) examinations for both classes.

Vaccination Grant.—The Local Government Board has for the fourth year in succession awarded the vaccination grant to Mr. Napier Close, public vaccinator of No. 2 Chard district.

University of Cambridge.—Dr. W. L. H. Duckworth, Fellow of Jesus College, has been appointed Demonstrator of Anatomy.—The First M.B., Second M.B., and Third M.B., Part I., will begin this term on Dec. 10th; the Third M.B., Part II., and the M.C. examination on Dec. 11th. Names of candidates have to be sent to the Registrary by Nov. 24th.

Presentation to a Medical Practitioner.—At Stuckey's Restaurant, Bristol, on Sept. 29th, Colonel Evan Llewellyn, on behalf of the class of the St. John Ambulance organised in connexion with the Great Western Railway Company, presented Mr. Harry F. Davis, L.R.C.P. Lond., M.R.C.S. Eng., with a silver cigar case in appreciation of his services as honorary lecturer.

Medico-Psychological Association.—The autumn meeting of the south-eastern division of the above association will be held, by the courtesy of the governors, at the Bethel Hospital, Norwich, on Wednesday, Oct. 17th. The following papers will be read:—Dr. James Fielding, A Short History of the Bethel Hospital; and Dr. Samuel J. Barton, An Epidemic of Sore Throat at the Bethel Hospital. The members will dine together after the meeting at the Royal Hotel, Norwich, at 6.30 P.M., provided that a sufficient number agree to be present. (Dinner 5*s.*, exclusive of wine.) Evening dress optional.

Donations and Bequests.—By the will of Miss Mary Elizabeth Humberston of Newton Hall, Chester, £500 are left to Chester Infirmary and £500 to Parkgate Convalescent Home.—The late Mr. Henry Brown of Alveston, Gloucestershire, has bequeathed £200 each to the Bristol Royal Infirmary and Bristol General Hospital, and £100 each to the Bristol Children's Hospital, Royal United Hospital, Bath, and the Bath Mineral Water Hospital.—Lord Wimborne has given £1000 to the fund for the erection of a new hospital at Poole.—By his will Mr. Charles Reeve has bequeathed £500 to the London Temperance Hospital and £500 to the Royal Hospital for Incurables at Putney.—By her will Mrs. Lucy A. Hills has left £3000 to St. Bartholomew's Hospital in memory of her late father.

University College, London.—The following medical entrance exhibitions have been awarded: First exhibition of 80 guineas, T. R. Elliott, Trinity College, Cambridge; second exhibition divided equally (£42 each), E. K. Martin, University College, London; and H. C. R. Darling, Otago University, N.Z., and University College, London. The following awards were made at the end of the past summer session: Atkinson Morley scholarship, H. E. Dyson; Atchison scholarship for general proficiency in medicine, Otto May; Filliter exhibition for proficiency in pathology, E. M. Cowell and T. S. Higgins; Fellowes clinical medal, J. C. R. Canney; Tuke silver medal for pathology, T. S. Higgins; and Erichsen prize for practical surgery, D. C. Taylor. The following awards of the Bucknill scholarship and entrance exhibitions have been made: Bucknill scholarship of 135 guineas, W. C. Fowler, Alleyn School, Dulwich; First exhibition of 55 guineas, D. J. Jones, Charterhouse; and Second exhibition of 55 guineas, A. C. S. Courts, University College, London.

Central Midwives Board.—A meeting of the Central Midwives Board was held on Oct. 4th at Caxton House, Westminster, Dr. F. H. Champneys being in the chair. At the meeting of the Board on July 26th last a letter from the Privy Council, dated July 24th, 1906, as to the new rules was read, considered, and referred to the standing committee (see THE LANCET, August 4th, p. 316). The report of the standing committee of the Board was now received and the Board unanimously agreed that the Privy Council should be informed:—

1. That the Board do not see their way to acquiescing in the amendments suggested by the Privy Council with respect to Poor-law institutions. 2 That the resolutions referring to the number of cases qualifying institutions or teachers for approval by the Board were framed merely for their own guidance and were of a tentative nature only. The Board did not wish them to be stereotyped in any way and do not consider that they are "rules" within the meaning of the Act requiring formal approval by the Privy Council. 3. That the suggestion that a new rule should be made imposing upon midwives the duty of notifying to the local supervising authority every birth occurring in their practice has already been considered by the Board, who thereupon resolved that in their opinion the matter was one for legislation and not for a rule of the Board.

A letter was read from Dr. E. W. Hope, medical officer of health of Liverpool, calling attention to a circular issued by a certified midwife advertising herself as a herbalist. The Board decided that Dr. Hope should be informed that the Board possesses no power to interfere in the circumstances stated. Sundry letters were read regarding the conduct of certain midwives and they were directed to be cautioned as to their future behaviour. The Secretary of the Board reported that at the August examination there were 245 candidates and that the number rejected was 53, or 21·6 per cent.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Barber, Alec, M.R.C.S., L.R.C.P. Lond., B.S., has been appointed Junior House Surgeon at the Great Northern Central Hospital, Holloway-road, N.

Brown, A. Carnarvon, M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Physician at the Great Northern Central Hospital, Holloway-road, N.

Brown, Robert, M.B., Ch.B., has been appointed Junior House Surgeon at the Great Northern Central Hospital, Holloway-road, N.

Clark, James, M.B., Ch.B., has been appointed Senior House Surgeon at the Great Northern Central Hospital, Holloway-road, N.

Gunn, Roderick M., M.B., Ch.B., B.S., has been appointed Junior House Physician at the Great Northern Central Hospital, Holloway-road, N.

Haegert, John Frederic, M.B., C.M. Edin., has been appointed a District Medical Officer by the Bristol Board of Guardians.

Holden, Arthur S., M.B., Ch.B. Edin., has been appointed Assistant Resident Medical Officer at the Sheffield Union Hospital.

Longwill, David, M.B., Ch.B. Glasg., has been appointed Medical Officer of Health for Shettleston District by the Glasgow Parish Council.

Lyon, George, M.B., Ch.B., F.R.C.S. Edin., has been appointed Pathologist to the Great Northern Central Hospital, Holloway-road, N.

James, W. T., M.B., B.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the New Quay District of the county of Cardigan.

Mackenzie, T. C., M.B., M.R.C.P. Edin., has been appointed Senior Assistant Physician at the Royal Asylum, Aberdeen.

Manson, J. S., M.B., Ch.B. Edin., has been appointed Senior House Surgeon at the Oldham Infirmary.

Pickett, Jacob, M.D. St. And., M.R.C.S., has been appointed Consulting Surgeon to the Metropolitan Ear, Nose, and Throat Hospital.

Price, David Thomas, M.B. Lond., has been appointed Medical Officer by the Shepton Mallett (Somerset) Board of Guardians.

Rhind, Thomas, L.R.C.P. Lond., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer and Public Vaccinator for the Hawkesbury District by the Chipping Sodbury (Gloucestershire) Board of Guardians.

Rutherford, John V. W., M.D., M.S. Edin., has been appointed Honorary Surgeon to the Royal Infirmary, Newcastle-on Tyne.

Smith, Hoyland, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Senior Resident Medical Officer at the Sheffield Union Hospital.

Smith, W. B. A., M.D., M.S. Dub., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Belper District of the county of Derby.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Belgrave Hospital for Children, Clapham-road, S.W.—Assistant Physician. Also Senior and Junior Resident Medical Officers. Honorarium at rate of £20 and £10 a year respectively, with board and lodging.

Birmingham and Midland Ear and Throat Hospital, Edmund-street.—House Surgeon. Salary at rate of £70 per annum.

Bodmin, Cornwall County Asylum.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, increasing to £180, with board, apartments, washing, &c.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street W.C.).—4 P.M.: Dr G A. Sutherland: Clinique (Medical.) 5.15 P.M.: Lecture:—Dr J. S Collier: The Diagnosis and Treatment of Local Lesions of the Spinal Cord.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2 30 P.M: Operations. 2 30 P M: Dr. R T. Howlett: Medicine 3 15 P.M: Mr. Carless: Surgery 4 P M: Mr. M Morris: Diseases of the Skin. Out patient Demonstrations:—10 A.M: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M: Clinical Lecture:—Dr Batten: Anterior Poliomyelitis.

CHARING CROSS HOSPITAL.—4 P.M: Demonstration:—Dr. M. Bruce: (Medical) (Post-Graduate Course)

NORTH EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital N).—4.30 P.M: Lecture:—Dr. G. N. Meachen: Methods of Diagnosis in Skin Diseases

CENTRAL LONDON OPHTHALMIC HOSPITAL (Gray's Inn-road W.C.).—6 P M.: Mr. Wells and Mr. Maclehose: Classes of Instruction in the Use of the Ophthalmoscope, with Demonstrations of Cases.

WEDNESDAY (17th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M: Diseases of the Throat, Nose, and Ear. Diseases of Children. 2 P M: Medical and Surgical Clinics 2.30 P M: X Rays. Operations. 5 P.M: Lecture:—Unusual Cases of Appendicitis

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr L. Mummery: Clinique. (Surgical.) 5.15 P.M.: Lecture—Dr. J S Collier: The Pathology and Treatment of Cerebral Vascular Lesions

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich)—2.30 P.M: Operations 2 30 P.M: Dr. R Wells: Medicine. 3 15 P.M.: Mr M. Robson: Surgery 4 P M: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M: Surgical and Medical. 11 A M: Eye.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W C.).—5 P.M: Demonstration:—Dr. D. Grant: Case Taking.

THURSDAY (18th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P M.: Medical and Surgical Clinics. 2.30 P M.: X Rays. Operations. Diseases of the Eye. 5 P M: Lecture:—Anæsthetics.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22 Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique (Surgical.) 5.15 P.M.: Lecture:—Mr. M. Morris: The Treatment of Some Common Skin Affections.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M: Operations 2 30 P.M.: Dr. G Rankin: Medicine. 3 15 P.M: Sir W. Bennett: Surgery. 4 P M: Mr. M. Davidson: Radiography. Out patient Demonstrations:—10 A M.: Surgical and Medical. 12 noon: Ear and Throat.

CHARING CROSS HOSPITAL.—4 P M.: Mr Boyd: Demonstration (Surgical) (Post Graduate Course.)

NORTH EAST LONDON POST GRADUATE COLLEGE (Tottenham Hospital, N.).—4 30 P.M: Lecture:—Dr. D Forsyth: Rectal Feeding.

CENTRAL LONDON OPHTHALMIC HOSPITAL (Gray's Inn road, W C) —8 P M.: Lecture Demonstration:—Dr. C. O. Hawthorne: Medical Ophthalmology.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M.: Chesterfield Lecture:—*Dr. M. Dockrell: Eczema,* its Varieties, Symptoms, and Causes

FRIDAY, (19th). POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. *Diseases of the Throat, Nose,* and Ear. 2.30 P.M: X Rays. Operations Diseases of the Skin. 5 P.M.: Lecture: Surgical Cases.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P M.: Mr. S Stephenson. Clinique. (Eye)

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P M: Operations. 2.30 P.M.: Dr. R. Bradford. Medicine 3 15 P M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3 30 P.M.: Clinical Lecture: Dr. Batten: Tumours of Spinal Cord.

SATURDAY (20th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M: Diseases of the Throat, Nose and Ear. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich)—2.30 P.M: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

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SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 11th, 1906.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 5	29·74	S.W.	...	99	66	58	61	65	Cloudy
„ 6	30·00	S.W.	...	105	65	53	53	55	Fine
„ 7	29·98	S.W.	...	84	66	55	55	57	Fine
„ 8	29·84	S.W.	0·19	103	66	55	55	57	Fine
„ 9	29·94	S.W.	0·24	80	62	54	57	59	Cloudy
„ 10	29·83	S.	0·19	94	69	59	59	62	Cloudy
„ 11	29·75	S.	...	90	63	53	58	61	Fine

During the week marked copies of the following newspapers have been received: *Herts Advertiser, Belfast Whig, Nottingham Evening Post, Wolverhampton Express, Staffordshire Sentinel, Sunderland Echo, Leicester Post, Coventry Times, Birmingham Post, Darlington Star, Manchester Dispatch, Motoring Illustrated, Globe, Tribune, Hartlepool Daily Mail, Bristol Press, Nottingham Guardian, Glasgow News, Newcastle Evening Chronicle, Scotsman, &c.*

ST. JOHN'S HOUSE OF REST, MENTONE.

To the Editors of THE LANCET.

SIRS,—Will you allow me to call attention to an advertisement which appears in your columns respecting St. John's House of Rest for gentlemen at Mentone? It was founded by the late Canon Sidebotham for the reception of *gentlemen*, either laymen or clerics, who from overwork, previous severe illness (not tuberculous), or any other cause need rest and refreshment in a mild climate and whose means are such as to preclude their meeting the usual cost of a visit to the Riviera. An erroneous idea seems to have hitherto prevailed that the house was intended for clergy only; this is not so, and, indeed, several medical men have been received. The terms of admission are so low that part of the expense of maintaining the institution has to be met by subscriptions and donations. As a regular resident at Mentone I take very great interest in the House of Rest and as a member of its council I have every opportunity of becoming acquainted with its working; and I can truly say that its charming situation and the great advantages it offers render it a most desirable place of abode and its low charges make it possible for many to avail themselves of it.

I am, Sirs, yours faithfully,

Oct. 3rd, 1906. W. H. AXFORD.

RAMIE FIBRE.

RAMIE fibre is extracted from the "bark" of an Asiatic plant belonging to the nettle family. It is singularly tough and has a curiously silky lustre. Messrs. the J. Spencer Turner Co. of Jewin-crescent, London, E.C., have submitted some underclothing made from this fabric to our notice. It is stated to be a very bad conductor of heat and to be unshrinkable; also to be cool in summer and warm in winter. We learn from our representative, to whom we submitted it for trial, that it is very comfortable and gives the wearer a curious sensation of being cool and warm at the same time, or, to use his own words, the sensation of being totally unclad in really warm air. On the whole we should think that it was a suitable material for underclothing.

RODENT ULCER AND LUPUS.

To the Editors of THE LANCET.

SIRS,—If any of my medical brethren in country practices have any cases of "epithelioma," "rodent ulcer," or "lupus" under treatment would they kindly communicate with me.

I am, Sirs, yours faithfully,

J. W. LANE, M.D.

Stavordale House, Weymouth, Sept. 24th, 1906.

SECRET REMEDIES.

To the Editors of THE LANCET.

SIRS,—Can your readers give me any information as to the secret remedy Activia (20, Bucklersbury, E.C.)? In the case of disease which the medical profession is unable to cure, such as asthma, would it not be a great advantage if THE LANCET were to analyse and publish the ingredients of the principal secret remedies relating thereto? I may mention that a certain proprietary asthma cure was strongly recommended to me by a fully qualified man as the only thing which had relieved him. The cost is £3 and the profit must be enormous.

I am, Sirs, yours faithfully,

Oct. 7th, 1906. L.R.C.P.

THE ADULTERATION OF BRANDY.

A KENSINGTON publican was recently fined £20 for selling as brandy a compound containing at least 54 34 per cent. of spirit not derived from grape-juice. The chairman of the Kensington divisional magistrates made observations as to the supineness of the British Government in checking adulteration and spoke of the tendency of traders to regard adulteration as a recognised form of commercial competition.

◆

M.B. Cantab.—Our correspondent will find in the Students' Number of THE LANCET some information under the heading of post-graduate instruction which will help him in the matter which he has submitted to us. Probably the most convenient hospital for his purpose would be the Royal London Ophthalmic Hospital. We would, however, impress upon him the fact that no one is justified in ordering glasses until he has corrected a very large number of refractions under skilled supervision. The apparatus mentioned in the second part of our correspondent's letter is quite satisfactory but as regards the instruction we could not advise him to receive it unless he has been previously thoroughly well grounded in ophthalmic work at an ophthalmic hospital.

A. F.—1. We believe that in some districts coroners are paid according to the number of inquests held. In other districts they get a certain fixed salary. 2. It is quite possible for a medical man to perform the duties of a coroner and at the same time to carry on his practice. 3. Coroners are now appointed by the local authorities and when there is a vacancy in the office of coroner the whole neighbourhood speedily becomes acquainted with the fact. The vacancies are sometimes advertised in the local press. Our correspondent might be able to obtain more detailed information by applying to the Secretary of the Coroners' Society, the Coroners' Court, Manor-place, Paddington Green, London, W.

Calamus.—In the circumstances we think that our correspondent may allow some notification of his claims to office to be published. The biography of which he speaks should only contain matters dealing with any special form of medical training connected with public health and municipal work.

Junior General Practitioner.—There is no legal obligation for a medical man to state definitely the nature of the illness on any club certificate.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (17th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (18th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (19th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (20th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (17th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M.: Papers:—Mr. J. Murray: Some Rotifera of the Sikkim Himalaya.—Mr. J. M. Coon: Cornuvia Serpula, a Species of Mycetozoa new to Britain.

THURSDAY (18th).—OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—8 P.M.: Card Specimens. 8.30 P.M.: Papers:—Mr. H. Spicer: Intraocular Infections.—Mr. G. Coats: Posterior Scleritis.—Dr. Edridge-Green: Observations on Hue Perception.

FRIDAY (19th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—5 P.M. Clinical Cases. Papers.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (15th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Diseases of the Eye. 5 P.M.: Lecture:—Clinical.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. G. Pernet: Clinique. (Skin.) 5.15 P.M.: Lecture:—Mr. C. R. B. Keetley: Appendicostomy.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Sir D. Duckworth: Medicine. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Throat and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

TUESDAY (16th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Diseases of the Throat, Nose, and Ear. 2.30 P.M.: X Rays. Operations. Diseases of the Skin. 5 P.M.: Lecture:—Insects as Carriers of Disease.

A Presidential Address

ON

THEN AND NOW, IN SURGERY.

Delivered before the Medical Society of London on Oct. 8th, 1906,

BY CHARLES A. BALLANCE, M.V.O.,
M.S. LOND., F.R.C.S. ENG.,
SURGEON TO, AND LECTURER ON SURGERY AT, ST. THOMAS'S HOSPITAL; SURGEON TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN-SQUARE.

GENTLEMEN,—I cannot commence my address without alluding to the great loss which the society has sustained by the sudden death of Mr. David Goodsall. Many of us feel his death as a personal loss and all who have taken an active part in the work of our society know how greatly we are indebted to him. Ever since I was elected secretary in 1889 I have been cognisant of his unselfish labours. Much of our present prosperity is due to his influence and sagacity. As a member of the finance committee and as treasurer he for nearly 30 years rendered the society unremitting, unostentatious, and valuable service. The quiet, gentle, and thoughtful manner in which he was wont to impart information and tender advice at the meetings of the council will long be remembered. Well may the Medical Society of London say of Goodsall:—

> "Life's race well run,
> Life's work well done."

This is the 134th session of the Medical Society of London. Almost all the more prominent members of the profession in London during this long series of years have belonged to our venerable society. I feel, therefore, that the great honour you have conferred upon me by electing me your President for the coming session entails no mean responsibility, but as I have the good fortune to be associated with experienced and enthusiastic colleagues I trust that the session will be as useful and successful as any of its predecessors.

The aim of our society is the promotion of every branch of medicine and surgery and the cultivation of friendly rivalry in this high cause. Last October my distinguished predecessor spoke of the great changes which had taken place within his own experience in the science and practice of medicine and this naturally suggested to me that, by way of a corollary, I might offer a few remarks on the development of surgery before and within my own experience. An interesting account of the adventures of a Greek surgeon in the fifth century before Christ named Dêmokêdês, referred to by Grote, affords evidence of the intelligence and skill of the Greek surgeons. Darius, King of Persia, in leaping from his horse while following the chase, injured his foot. He was in violent pain for seven days and nights which the Egyptian physicians who attended him failed to relieve. Dêmokêdês, at that time a prisoner and a slave, succeeded perfectly, though he appears to have required some persuasion to undertake the dangerous task of treating so formidable a patient. Being asked whether he understood surgery he affected ignorance, but Darius, suspecting this to be a mere ruse, ordered out the scourge and the pricking instrument to overcome it. Dêmokêdês now saw that there was no resource, admitted that he had acquired some little skill, and was called upon to do his utmost in the case before him. He alleviated the pain, procured sleep for the exhausted patient, and ultimately restored the foot to a sound state. It would seem that he reduced a dislocation or put up a Pott's fracture in plaster-of-Paris; probably then called plaster-of-Athens. Dêmokêdês showed a consideration for his discomfited predecessors well worthy of imitation in the present day, for he interceded for the Egyptian physicians whom Darius proposed to crucify as a mark of his resentment. The history further relates the successful treatment by Dêmokêdês of Atossa, Queen of Persia, for tumour in the breast. The notes of this case have unfortunately been lost and so we are deprived of the chance of tracing in the mind of Dêmokêdês a knowledge of the principles underlying the Halsted operation.

In the days of Hippocrates (B.C. 460) the distinction between medicine and surgery apparently did not exist. Celsus, writing 50 years before the Christian era, seems, in the following passage, to refer to surgery as a branch but recently separated from general medicine: "It may perhaps be asked what is the domain of this branch (that is surgery) since surgeons claim for themselves the treatment of many wounds and ulcers of which I have elsewhere spoken. Personally I believe that one man may well undertake the whole but since there are divisions I commend him whose practice embraces the most. I have, however, abandoned to surgery firstly the cases where the practitioner himself makes the wound instead of finding it ready made; secondly, wounds and ulcers for which, I believe, much more may be done by the hand than by drugs, and, lastly, all that concerns the bones." For many centuries the sphere of surgery was not much enlarged but "plus profici manu quam medicamento" is now true of a great and constantly increasing number of diseases. In clinical observation Hippocrates was not inferior to the wisest practitioner of the nineteenth century. Sydenham (1650), one of the great founders of modern medicine, has often been called the English Hippocrates and resembled his Greek prototype, who practised 21 centuries before him, in the high value he set on the study of the natural history of disease. Hippocrates's knowledge of anatomy, physiology, and pathology was necessarily defective. The superstitions entertained by the Greeks respecting the dead precluded him from practising human dissection. He had, however, worked at the skeleton of man and dissected apes and quadrupeds. If the ancient Greeks when they reached the zenith of their culture had studied the anatomy of the human body in health and disease their medical knowledge would have been but little inferior to that of the present day.

Human anatomy is the basis of surgical and medical knowledge. The science of surgery therefore dates from the foundation of the schools of Alexandria by Ptolemy Soter, King of Egypt (B.C. 285), for it was there that by Erasistratus and Herophilus human anatomy was first systematically studied and taught. All the knowledge thus garnered seems to have been lost in the burning of the Alexandrian libraries (640) and in the wars and tumults of the early centuries after Christ. Gibbon denies this. He says: "Nor can it be fairly presumed that any important truth, any useful discovery in Art or Nature has been snatched away from the curiosity of modern ages." His editor says that since the time of Gibbon several new authorities have been adduced in favour of the opposite view. He mentions, too, that a similar charge of wanton destruction was brought against the Crusaders. The library of Tripoli containing 3,000,000 volumes was, on the capture of the city, ordered to be burnt by Count Bertram of St. Gilles because the first room which he entered contained nothing but the Koran." Who can tell what treasures of surgical knowledge were lost in the burning of that royal library or in the doom of "Babylon the glory of the Kingdoms, the beauty of the Chaldees' Excellency."

At first sight it is indeed a matter of wonder that we know as much as we do of ancient times for, as Dean Milman remarks, "the whole state of the known world at that period seems to offer no more secure footing to an historical adventurer than the chaos of Milton, to be in a state of irreclaimable disorder, best described in the language of the poet"—

> "A dark
> Illimitable ocean, without bound,
> Without dimension, where length, breadth, height
> And time, and place are lost; where eldest Night
> And Chaos, ancestors of Nature, hold
> Eternal Anarchy, amidst the noise
> Of endless wars, and by confusion stand."

Certain it is that from the date when the learning of Alexandria was lost the spirit of man was content to occupy its earthly tabernacle for more than 1000 years without anatomical and physiological inquiry, till indeed the rise of the famous sixteenth century school of anatomists. "In the very natal city of human anatomy it is but 38 years since the death of Clot Bey the first public lecturer on Anatomy in Egypt for about seventeen hundred years. So strong are Mussulman prejudice and hatred that a student rushed upon him and stabbed him with a poniard, when he first opened the thorax of a body, although he was under the protection of the Pasha Mehemet Ali. The blade slid over the ribs and Clot Bey, perceiving that he was not seriously hurt, took a piece of plaster from his dressing-case and, applying it to the wound, coolly observed to the class, 'We were speaking,

Communications, Letters, &c., have been received from—

A.—Messrs. Adlard and Son, Lond.; Dr. C. T. Andrew, Lond.; Dr. William Ayres, Brierley Hill; Messrs. Arnold and Sons, Lond.; Dr. D. E. Anderson, Paris; A General Practitioner; Argyll Motors, Ltd., and Argylls, London, Ltd.; Messrs. Aked and Aked, Lond.

B.—Dr. G. P. Best, Lond.; Mr. H. Hayton Blacklock, Lond.; Mr. W. H. Brown, Leeds; Dr. W. Blair Bell, Liverpool; Messrs. A. M. Bosomworth and Co., Lond.; Birmingham Ear and Throat Hospital, Secretary of; Mr. Charles Blair, Tillicoultry; Mr. Harold Barwell, Lond.; Dr. E. A. Babler, St. Louis; British Oxygen Co., Lond.; *British and Colonial Druggist*, Lond., Secretary of; Mr. Peyton T. B. Beale, Lond.

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strangulated hernia before operating; the reduction of intussusception was attempted with the kitchen bellows; intestinal and gastro-intestinal anastomosis were unknown. No attempt was made to open brain abscess unless obviously beneath a fracture. Operation for brain tumour was unheard of. The mastoid operation was not performed in any London hospital. No operations were performed on the heart or spleen. Patients with renal and biliary calculi were left to their fate. Appendix operations were not done, though gangrenous appendicitis and its results had been already described and figured by Lebert. The risk of surgical operations was still so considerable that they were often delayed as long as possible.

The place that surgical intervention occupies in the treatment of disease is now quite different; so little is the risk and discomfort attending most operations that surgical intervention has now become the method of choice for those affections amenable thereto. The work of the last 15 years is known to you all and I need not mention it. The rise of modern surgery began with the discoveries of anæsthesia and antisepsis. Had it not been for the genius of Simpson chloroform might still be unknown, and had not Pasteur's revelation of the world of microscopic organisms in their relation to the processes of fermentation and putrefaction led Lister to make the first and most important application of bacteriology to the prevention of disease countless preventable deaths might still be occurring. Both of Pasteur and of Lister we delight to affirm, as Macaulay did of a great statesman, "History will deliberately pronounce that among eminent men no one has left a more stainless and none a more splendid name."

No longer hampered by the necessity of sacrificing accuracy of detail to mere rapidity in operating, nor deterred by the risk of death from sepsis, surgeons were able to intervene where before they could only look on. The art of surgery rapidly advanced, our knowledge of disease was greatly increased, and diagnosis by being more often put to the proof was rendered much more accurate. But this very advance, so far from justifying the Celsian dictum "quantum vero in vivis cognosci potest, ipsa curatio ostendat," demanded, as a condition of further progress, knowledge that can only be acquired by deliberate experiment on the living animal.

At the present time the surgeon is often obliged to operate with scant assurance of complete success. "We must often undertake things when the probability of succeeding is against us, and if we can do nothing better we must not on that account consider the undertaking impossible and unreasonable. Reasonable it will always be if we can do nothing better, and if we employ such sparse means as we may possess to the best advantage." So wrote a great military author. His words are equally applicable to the warfare against disease. It is not reasonable, however, and we are not employing the means at our disposal to the best advantage if we deliberately try upon man new procedures without first ascertaining their effect by experiments on animals. Celsus referred to human vivisection as if actually practised, or at all events not prohibited, by the legislature. He, however, stigmatised it as not only cruel but unnecessary, as abundant opportunity was afforded for the study of living organs by observation of gladiators in the arena, soldiers wounded in battle, and travellers who had received the attentions of brigands in the neighbourhood of Rome; but though these special means of investigation are not available for London workers the consensus of medical and lay opinion now, not less than in the days of Celsus, is rightly against deliberate experiment on man for the acquisition of knowledge. The study of the effects of disease as seen after death and in the course of surgical operations is a field already reaped and has come to form part of the curriculum of the student rather than the field of the investigator, though no one would say that important discoveries will not yet be made in this branch of inquiry.

Those who pursued the study of human anatomy even less than a century ago had to encounter physical danger as well as the prejudice and abuse which now falls to the share of those who seek to advance knowledge by experiments on living animals. Among those who are against us in this matter are many who honestly differ from us and whose opinions and conduct are entitled to our respect and consideration, but there is a small class of persons who display a lamentable want of truth and justice and

"whose tongue
Outvenoms all the worms of Nile."

Such may well be described in a phrase detached from a famous speech by Disraeli at the Guildhall as "gifted with an egotistical imagination that can at all times command an interminable and inconsistent series of arguments whereby to glorify themselves and to malign their opponents."

In all ages the search after truth, whether in science or theology, whether by translation of the Bible, by looking at the stars, by following the life-history of pathogenic bacteria in the living animal, or by making an antitoxic serum for the cure of disease, has met with irritated opposition and obstructive prejudice and its supporters have not always escaped calumny. I need not recall to you the invectives that have been applied to some of those most highly esteemed by our profession and by the public. Were Simpson at the present day engaged in chloroforming rabbits he would be subject to the criminal law of our country, and it is well known that Lister had to go to Toulouse to perform some important experiments, just as Galen had to send his students to Germany to dissect the bodies of enemies slain in battle because he was forbidden to obtain subjects in Rome.

Dr. Keen relates how "Sir Lauder Brunton began a series of experiments (on snake venom) in London but was stopped by the antivivisection laws in force. But Dr. Weir Mitchell and Dr. Reichert in Philadelphia undertook experiments on cobra and rattle-snake venom, the cobra poison being furnished, be it observed, by the British Government, whose own laws have prevented investigation for the benefit of its own subjects."

Where would the surgery of the intestines and stomach be without the labours of experimenters! How could the surgery of the nervous system have advanced without the experiments of Ferrier, Schäfer, Beevor and Horsley, Sherrington, Aldren Turner, Risien Russell, and many others! To experimental work on the living animal we are wholly, or in great part, indebted for what we already know about the pathology of bacterial infections, serum therapy, protective vaccines, cerebral localisation, the healing of wounds, the healing of nerves, and the healing of arteries, the transplantation of nerves, the surgery of the nervous system and of the gastro-intestinal tract, the effects of removal of organs, organo-therapy, the action of many important drugs, and the means of detecting certain poisons which defy chemical analysis. Fresh from a too brief visit to America I am glad of the opportunity of describing some splendid work which is in progress there by our colleagues in that great country. You will remember that Sir Lauder Brunton suggested long ago that the surgeon might be able to overcome the effects of mitral stenosis. In one of the splendid laboratories of the Johns Hopkins Hospital at Baltimore I saw the results of some ingenious and successful experiments on mitral stenosis and insufficiency and I do not doubt that in time these will be made useful for such diseases in man. Further, I saw a dog whose thoracic aorta had been successfully obstructed by Professor Halsted which suggests the possibility of dealing successfully with thoracic aneurysm. Thoracic aneurysms have never been able to be cured like aneurysms of the limbs, since Scarpa's law still holds good that for cure the artery must be obstructed at the site of the aneurysm. In all the experiments at Baltimore exactly the same precautions and care are taken as in operations performed on man.

At Cleveland I saw a wonderful experiment. Dr. Crile performed in a most beautiful manner the modern operation of anastomosis of arteries and by its means resuscitated a dog whose heart had ceased to beat for 25 minutes. Two dogs were chloroformed and one bled to death by opening the femoral artery. In both animals one common carotid artery was then exposed and divided, the distal end being ligatured and the proximal end clamped. An anastomosis between the proximal ends of the two vessels was now made. When the clamps were removed the blood flowed from the living dog towards the heart of the dead dog which almost at once recommenced to beat. Dr. Crile stated that as soon as the pressure in the coronary arteries reaches from 20 to 30 millimetres of mercury the heart begins to beat again. No leakage whatever took place from the anastomosis. This experiment gives a clue to a method of resuscitation from death by hæmorrhage in man. Dr. Crile also demonstrated an ingenious method of suture for gastro-intestinal anastomosis. The recent work on the anastomosis of arteries and veins led up to the transplantation of entire organs by Dr. Carel who successfully transplanted kidneys from one dog to another. How great are the possibilities opened up by these experimental demonstrations; may we not hope gentlemen, of the disposition of the ribs and sternum and I now have the opportunity of showing how a blow directed from above has so little chance of penetrating the thorax,' and went calmly on with his lecture."

Among the names recorded on the walls of the Kasr-el-Aini Hospital it is interesting to note that of an Arabian physician who wrote several books, one of which was entitled, "On the Rarity of Good Doctors and the Abundance of Bad Ones." In the early years of Clot Bey's work the wards of the Cairo hospital are described as small and badly ventilated and were too near a large cemetery, where the dead were so carelessly buried that the stench was most terrible in the hospital and the patients were kept awake at night by the hyenas fighting over the unearthed corpses. One of Clot Bey's greatest services to Egypt was the introduction of vaccination. Every year before this was accomplished 60,000 children died annually from small-pox.

Not least among the benefits of English influence in Egypt is the now flourishing Egyptian school of medicine at Cairo in which several of my friends occupy prominent posts. Most of us are acquainted with the excellent work, begun over 20 years ago, of Sandwith and Milton at the Kasr-el-Aini hospital. Surrounded as we are in this city with every luxury of assistance, it is hardly possible for any one of us to appreciate the immense difficulties successfully overcome by Milton when he commenced work at Cairo. He undertook capital operations without assistants and without nurses. He would sit up all night with cases after serious operations, and Dr. Sandwith has told me that on one occasion at the close of an operation the patient being *in extremis* Milton opened a vein in his own arm and performed direct transfusion with his own blood. Thanks to the pioneer workers of the last century in the Egyptian wilderness the present school of medicine in that country is in a flourishing state, and not the least interesting fact I may record is that every Egyptian student on leaving the medical school is required to take an Arabic version of the Hippocratic oath.

OATH OF THE DOCTORS.[1]

I swear, in the name of God the most High, and of his sublime prophet Muhammad, whose glory may God increase, to be faithful to the laws of honour, honesty and benevolence in the practice of medicine. I will attend the poor gratuitously, and will never exact too high a fee for my work. Admitted into the privacy of a house, my eyes will not perceive what takes place; my tongue will guard the secrets confided to me. My art shall not serve to corrupt, nor to assist crime, and I will not yield, under any pretext or persuasion, to prescribing any poison to anyone. I will neither give nor prescribe to any pregnant woman dangerous drugs, capable of provoking or producing an abortion. Ever respectful and grateful to my masters I will hand on to their children the instruction which I have received from their fathers.

May I be respected by men if I remain faithful to my vow! If not, may I be covered with shame and be despised! God is witness to what I have said! The oath is finished.

It appears to me that the ancients knew more than we usually give them credit for. This is no new opinion, for Celsus said: "Though we should not refuse to give modern authors due credit for their discoveries or happy imitations, it is none the less just to restore to the ancients what properly belongs to them." The natural outcome of the Alexandrian studies was the ligature of arteries with silk or catgut for the arrest of hæmorrhage and the cure of aneurysm, but it is not known by whom it was first practised, though Evelpistus is stated to have introduced it into Rome and it is clearly described by Celsus and Galen. Is it conceivable that these great men were wholly ignorant of the physiology of the vascular system? Is it not more likely that as Ambroise Paré rediscovered in 1570 the use of the ligature "by special favour of the Sacred Deity," so Harvey in 1618 re-demonstrated to the modern world what had been understood, though perhaps only dimly, by the Alexandrian school? In the Louvre there is a Greek statue of a gladiator brought down by a small wound in the thigh. The marble so vividly recalls the flat sheet of blood which would issue from a transverse wound in the femoral artery as to suggest that some degree of anatomical and physiological knowledge must have guided the sculptor's hand.

Celsus refers to the ligature of vessels, not as a new discovery, but as a matter of current practice. The passage runs: "If the hæmorrhage still persists the vessels from which the blood flows must be seized in the wound, tied in two places, and divided between them, so that they may retract and at the same time have their orifices occluded. ... ... Also, when there is much hæmorrhage from a place without important muscles and nerves, such as the forehead or the top of the head, the most handy thing to do is to apply a cupping glass in the vicinity in order to divert the course of the blood." How could Celsus have written "sanguinis cursus revocetur" without having had some idea of a blood current? In another place Celsus advises tying vessels during an operation before dividing them.

Galen wrote, "But if on laying bare the vessel it should appear to you large and to pulsate strongly, it is safer for the operator to put a double loop round it and to divide between, and let these ligatures be of a material which will not readily decompose. Such a material in Rome can be got from the Gaietans who bring it from the country of the Kelts and sell it in the Via Sacra, which leads from the temple of Roma to the markets. This is the easiest thing to get in Rome and it is sold very cheaply there; but if you are practising your art in another city prepare for yourself some threads known as silk; rich women have these in many parts of the Roman Empire and especially in large cities. If you cannot get this choose the material least liable to decompose from among those that you can get where you are, such as fine cat-gut, for materials which easily decompose fall quickly out of the vessels, but we wish the knot only to fall out when the vessels have been well covered round with flesh, for the flesh which grows up in the parts of the vessels which have been cut off acts as a covering and stops their mouths, and when this has happened is the time for the ligatures to separate without danger." And again: "If the artery be large, and if it be cicatrised beyond the aneurysm, the whole of it should be cut through, and oftentimes that very practice prevents the danger from hæmorrhage, for it appears plainly that when a complete transverse division is made both portions of the artery retract on either side, the one above the part the other below."

It is related that the use of the ligature by Ambroise Paré encountered much opposition from certain of his rivals who did not hesitate to revile both him and it in the coarsest language. To one of these, a certain Dr. Gourmelin attached to the Paris Faculty of Medicine, who had compared him to an executioner, the great surgeon replied: "Come, now, my good little fellow, try to understand the ancient authors a little better and be more just to your contemporaries. You make a profession of learning and do not know that ligature of vessels was a familiar practice with the ancients; you meddle with teaching and do not know that almost in our own days, in Germany and in Italy a return to this practice has been made. You write books but they only serve to retard the progress of our art by keeping up the most dangerous errors and by reviling and discouraging those whose endeavours are directed to its advancement. Which of us two do you think most resembles that officer of justice to whom you have not been ashamed to compare me, you who can only talk of boiling oil and hot irons to arrest hæmorrhage, or I, who arrest it by tying the vessels from which it comes."

During the middle ages, indeed until the time of Hunter, surgery showed no great advance over that of the time of Celsus; even at a later epoch current practice was in some respects by no means better than that advised by Celsus. I remember well enough a woman walk into the hospital when I was a dresser with her intestines in her petticoats, a hernial scar having given way. The surgeon washed the intestines with milk and returned them into the abdomen. Celsus directs that intestines protruded through an abdominal wound should be washed with water mixed with a little oil and returned into the abdominal cavity. He gives explicit directions as to enlarging the wound, holding up the edges of the divided peritoneum, suturing a perforation of the intestine, cutting away gangrenous omentum, and finally closing the wound in layers.

When I entered the profession the obstacles to the study of human anatomy had been removed and clinical observation combined with post-mortem study had greatly increased our knowledge of disease. The work of Lebert, Auvert, Cruveilhier, Bright, and Hooper was being carried on by Bristowe, Cornil and Ranvier, Wilks, Fagge, and many others. Virchow's most influential writings were of recent date. The work of the experimental school of Pasteur and Lister had but commenced to influence the profession. When I was a house surgeon we used the steam spray and carbolic lotion but the surgeons made a point of operating in old coats bespattered with the blood and pus from many a field day. Prolonged efforts were frequently made to reduce of medicine could be acquired from a book. That was an idea which was very prevalent in the Middle Ages. Of course, those of us who have worked earnestly and steadily at the subject know that you cannot learn it in that way, but books are nevertheless most important aids in our study of medicine.

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[1] From Dr. Sandwith's paper, The History

I propose to speak to-night on the subject of medical books and I want to do so, first of all, not in the spirit of trying to tell you what you should read and what you should not read—not in the least in the spirit of direction. I only wish to encourage you to read—that is to say, to encourage you to make some use of books as a means of enabling your minds to work better in the study of medicine. There is a famous passage, which I will read to you, in one of Macaulay's essays, on the subject of reading. It is in the essay on Bacon, where he speaks of the feeling which a man of liberal education naturally entertains towards the great minds of former ages. He speaks of their writings and says: "These are the old friends who are never seen with new faces, who are the same in wealth and in poverty, in glory and in obscurity. With the dead there is no rivalry. In the dead there is no change. Plato is never sullen. Cervantes is never petulant. Demosthenes never comes unseasonably. Dante never stays too long. No difference of political opinion can alienate Cicero. No heresy can excite the horror of Bossuet." There is another passage in English literature of the same purport which I am sure Macaulay had often read. It is in the writings of Bishop Hall of Norwich [1] who lived in the seventeenth century: "What a heaven lives a scholar in, that at once and in one close room can daily converse with all the glorious martyrs and fathers! that can single out at pleasure, either sententious Tertullian, or grave Cyprian, or resolute Hierome, or flowing Chrysostome, or divine Ambrose, or devout Bernard, or (who alone is all these) heavenly Augustine, and talk with them and hear their wise and holy counsels, verdicts, and resolutions." That passage, you see, has the same idea as Macaulay's. No doubt he had often read it, although it would be wrong for a moment to think that his own splendid passage was a plagiarism from it. He wrote in the enthusiasm which he always felt for great books. It is in this spirit of admiration and gratitude that I wish to deal with the subject of medical books. Everyone, as he reads books, comes to find that he has certain definite friends among them and those friends we often are attached to for very varying reasons. All of us, in our circle of friends, know men who are not possessed of the most extraordinary abilities, who do not achieve the most wonderful success, but who nevertheless we are deeply attached to. We are attached to them, perhaps, for some particular quality and sometimes even for less than that, because they are in some way associated with some incident or part of our lives which is dear to us. It is in this way of friendship that I want to approach medical books this evening. So you must not expect that I am going to give you either *logarithmic* tables for the extraction of results from the innumerable volumes of transactions, periodicals, systems, and dissertations, or a list of the 100 best books of medicine. I am only going to tell you of a few of my own friends, in the hope, perhaps, of inducing you—probably many of you have already done so—to form your friends among the thousands of volumes which are to be found in medical libraries. And therefore I shall not make any apology for beginning with a question which otherwise you might think of very little use—that is to say, if we were looking on the matter in another way. I shall begin by asking you, What is the first book in any way related to the study of medicine which was known by anyone in England? Who was the first author containing a medical passage to be thought of in this country? One always likes to know the beginnings of things if possible, and somewhat in that spirit I ask this question. There can be no doubt about the answer. It is quite certain that the first author who has any passage referring to medicine and the reading of whom we can in any way trace to this island, was the Roman poet Lucretius. This takes us back to the time of the first connexion of Britain with the civilised world, the time of its invasion by Cæsar. Cæsar had in his army Quintus Cicero, the brother of the orator, and himself an equal lover of books with Marcus Tullius Cicero. Quintus Cicero, having heard of the death of Lucretius, wrote, in a letter the text of which has survived to this day, to his brother in Rome, asking what had become of the literary remains of Lucretius. And Cicero, the orator, wrote an answer back, saying what the writings were. Lucretius was born about the year 104 B.C., and was not an old man when he died. He was of a philosophic turn of mind and had read a great deal; and, as many of you know, he wrote a great poem, which is a complete recital and defence of the Epicurean philosophy. Lucretius had read something of the medicine of his own time and there is a famous passage, which I will not read to you, it has so often been quoted, describing a patient in an epileptic fit. It is a most accurate description of the way in which the patient falls to the ground absolutely unconscious, has tonic and clonic spasms, as we say, foams at the mouth, and then gradually recovers. Lucretius is an author about whom there is a kind of romance in the periods at which he has been read. His poem was studied after his death in the great age of Roman literature. Then in later centuries scarcely a trace of his works is to be found. He is just mentioned in a small passage which St. Jerome quotes from the Roman historian Suetonius. Hardly any other mention occurs of Lucretius in the literature of the Middle Ages. Virgil and Horace and Ovid were as well known to the mediæval writers as to us but Lucretius was simply a name.

In the year 1414, when a General Council was sitting at Constance, there came as secretary to the Pope a very learned Italian who was extremely fond of libraries and books, Poggio Bracciolini. While the council was sitting he spent his spare time in wandering here and there looking for books, and in one of these expeditions in some library, probably in Southern Germany, we do not know which it was, Poggio discovered the manuscript of the poem of Lucretius. He knew what it was and he was delighted with it. He had not time to work at it then but he sent it on to a friend of his, Nicolò Niccoli, in Florence, to read. Poggio's letters are preserved and after about twelve years he wrote to Niccoli saying: "You have already had my manuscript for twelve years." Niccoli no doubt felt, "It is quite true and it is worth keeping that time and much longer, I have been studying it ever since." And Poggio wrote again after fourteen years, for Niccoli still had it. At last, however, he restored it to Poggio, but before he did so he had made a complete copy of it, and till the present day that original manuscript, discovered during the Council of Constance, about the time of our battle of Agincourt, has been lost. No one knows where it is and one of our chief authorities for the text of Lucretius is the copy which Nicolò Niccoli made of the manuscript which Poggio had lent him, a most faithful and valuable copy, as is shown by its agreement with a manuscript of the ninth century, which has since been found and is now at Leyden. Poggio's discovery, you see, was a little before the invention of printing but in the same century. Lucretius was first printed in 1473. It was the time of the revival of classical learning and his poem excited the most extraordinary admiration. It deserved admiration for its beautiful clearness and there is a peculiar charm about its metre, which has much alliteration and assonance, and produces in Latin something of the entrancing effect which Spenser has in English; the earnestness of the writer is also very striking. At the Renaissance everyone thought it right to be acquainted with Lucretius and from that time to this day his poem has attracted the attention of scholars. I can remember, as an undergraduate at Cambridge, often seeing Mr. Munro, the most celebrated English editor of Lucretius, walking across the great court at Trinity and always venerating him as one of the most learned scholars in the University. The history of the poem of Lucretius is like that of some famous diamond, once refulgent in a crown, then lost in the dust for ages, and then discovered and brought out to shine with brighter radiance than before. It is interesting that this poet, the history of whose works is so romantic, should be the very first author mentioned in our island whose works contain any medical passage. Let us leave this wonderful Pagan and come down to Christian times.

The next writer on medicine about whom I wish to speak is mentioned by the first great English author, the Venerable Bede. Bede wrote, you will remember, the great history which is our chief authority for the earliest deeds of the English nation. Those of you who are Cambridge men will remember the copy of his history in the show case in the University library. That manuscript was written before his death and in the library of Trinity College for the time when diseased organs will be got rid of and replaced by healthy ones?

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[1] Epistle to Mr. Milward.

If these results are attained it is to be hoped that the problem of breeding the anthropoid apes in captivity may be solved, or we may see in a future number of the *Times* the advertisement attributed by an American humorist to the man who had destroyed his conscience: "Medical colleges and hospitals desiring assorted tramps for scientific purposes by the gross, cord measurement, or per ton will do well to inspect the lot in my cellars before deciding elsewhere."

At Buffalo I spent a day in the Government Cancer Research Laboratory. Here carcinoma is being studied by experimentally communicating it to mice, and several thousand successful inoculations have been made. A proportion of the animals so infected recovered without treatment, demonstrating experimentally what has been inferred from clinical observation—that spontaneous recovery from this disease is possible and that there are certain forces at work in the body antagonistic to the growth of cancer and tending to produce immunity. This has already led to the employment with some success of a vaccine and should serve as an incentive to research directed towards the preparation of a serum for the treatment of malignant disease. In my view it is futile to carry on experimental work on carcinoma unless the hypothesis that it is a microparasitic disease be accepted.

So far-reaching is the influence of experiment on the progress of treatment that no one of us can separate himself and say "physiological experiment has nothing to do with me." Till the functions of the living organs in health are clearly understood it is not possible for us fully to understand the changes that occur in the living organs in disease. The knowledge of living processes which is essential for the further progress of surgery and pathology can only be acquired by experiment on the living animal. It seems to us odd that the Romans who did not hesitate to sacrifice human life for their amusement should refuse the bodies of the dead for anatomical study. To a future generation it will seem eqally strange that a certain class of Englishmen of the present day who do not hesitate to rear animals for the mere pleasure of the chase or the palate should consider it criminal to sacrifice animal life for the acquisition of knowledge essential to the relief and cure of disease. On this subject I cannot do better than quote the words used by J. F. D. Jones in his classical work on the Arteries published 100 years ago: "The author has," he writes in his preface, "only a few more words to say addressed to men out of the pale of his profession into whose hands this little book may fall whose opinions he esteems and whose sentiments he honours. He regrets the necessity of obtaining even this important knowledge by the sacrifice of brutes. But when we remember the incessant scourge of war which has followed man through all the ages of his history, not to mention the consequences of accident and disease, it is not too much to assert that thousands might have been, and may still be, saved by a perfect knowledge of these subjects, which can only be directly obtained by experiments on brutes; indirectly, and very slowly, by observations on the injured arteries of man; and even these cannot be made until he has fallen a sacrifice to the want of assistance or to the imperfect knowledge of the surgeon."

Those who are engaged in the study of physiology, pathology, therapeutics, and surgery on the living animal are, it is well for us to remember, following in the footsteps of Pasteur, of Lister, and of all those who have most contributed to the advance of medicine, and by whom "that ideal world wherein" the whole body of surgeons "had been dimly struggling, and inexpressibly languishing to work, became revealed and thrown open." The results of their labours are available for all. Every new fact is a gain, though its practical application may not be immediately apparent. The discovery of new knowledge is ever a laborious task, and those who seek this knowledge will always have the sympathy and support of our ancient society.

It might be thought needless before this audience to refer to the necessity of experiments on the living animal but, as Richelieu said, "The public occasionally blames what is most useful and even essential to its welfare;" so in the circumstances of the present time and in my official position I have felt impelled to take the opportunity of saying frankly what I hold to be true on this subject. I conclude wit [illegible] passage from Sir Thomas Browne: "The wisdom of God receives small honour from those vulgar heads that rudely stare about, and with a gross rusticity admire His works. Those highly magnify Him, whose judicious inquiry into His acts, and deliberate research into His creatures, return the duty of a devout and learned admiration. Therefore,

> 'Search while thou wilt; and let thy reason go,
> To ransom Truth, e'en to the abyss below;
> Rally the scattered causes; and that line
> Which Nature twists be able to untwine.'"

An Address

ON

MEDICAL BOOKS.

Delivered before the Abernethian Society on Oct. 5th, 1906,

BY NORMAN MOORE, M.D. CANTAB.,
F.R.C.P. LOND.,

PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

MR. PRESIDENT AND GENTLEMEN,—It is a great pleasure to me to deliver an address to the Abernethian Society, of which I am, I think, one of the senior members and over which, when I was house physician, I had, like you, Sir, the honour of presiding. I was present when the society celebrated its centenary and I almost feel as if I had witnessed its commencement because I have spoken with six people who remembered hearing Abernethy himself lecture in this school. I remember when I was Warden of the college one October a father, a venerable clergyman, called upon me with his son who entered as a student. I asked the father, in the course of that general conversation which the Warden of the College always has with a parent, whether he knew the hospital or had ever seen it before. "Well," he said, "it is a long time since I have been here but I was here once when I was an undergraduate at Cambridge and happened to come up to London. Someone brought me to hear Mr. Abernethy lecture and he was lecturing on the body of Thurtell, the murderer." Thurtell, you will remember, was the man who committed in 1823 a particularly atrocious murder which excited great attention at the time but would perhaps be now forgotten but for a ballad which Horne Tooke wrote upon it, which described the victim and the way in which he was killed.

> "They cut his throat from ear to ear,
> His brains they battered in.
> His name was Mr. William Weare,
> He dwelt in Lyons Inn."

It was the custom at that time to give certain bodies of criminals for dissection, and thus the clergyman with whom I talked had come to hear Abernethy lecture on the body of Thurtell. Having talked with some of Abernethy's auditors I feel that I am almost in touch with the very commencement and with the patron saint, as I may say, of this society, the person in whose honour it was originally founded. And therefore it gives me especial pleasure to take any part in its proceedings. All the papers which are read here have some relation or other to the work of this place, the work in which we are all engaged. Our work may be divided very well into three separate parts or stages. First of all we spend a great deal of time in acquiring knowledge to make us competent to observe. Next we spend more time—a great part of our lives, those of us who stay here—in carrying out observations in the wards. And as we come out of the wards each day and throughout our lives, the third part of our work begins; we endeavour to interpret for the benefit of the patient and for the benefit of the world at large the observations which we have made in the wards. Books are one of the aids which we have in directing our thoughts upon the observations which we have made in the wards. The uses of reading are that it enables us to compare the observations of others with our own and that it helps us while following their thoughts and arguments to set our own minds thinking systematically on what we have seen. The latter is perhaps more important and it is therefore better to read a few books often than many books superficially. There was a time when people thought that you could learn medicine by reading books. I have now and then met with students who had an idea that at any rate the greater part looks like a mosque, it has those peculiar horseshoe-shaped arches which are to be seen in Mohammedan buildings. The shield of King Alonso, who turned it into a Christian church, hangs up in it. It was, of course, originally a mosque. And of course the reason there are so few prominent traces of the Goths is that the Arabs conquered Spain and became the chief civilised power in it. Those Arabs themselves had an immense force in relation to the study of medicine. Isidore, you see, wrote the sort of residuum which remained after all the classical books had for the time been lost, or at all events had ceased to be read, when you could not buy anywhere a copy of Hippocrates, when it was not possible to get a manuscript of Galen. They were not absolutely destroyed but they were so rare and so hidden that they were practically of no use. The Arabs found many of them in the Greek cities of the countries which they overran and they acquired the knowledge which was in them and when they came to Spain they brought with them considerable knowledge of medicine which really was acquired from the great Greek writers on the subjects. And so I have always regretted that I was never taught Arabic and for that reason have never been able to read any of these authors in the original. But most of them have been translated into, at all events, Latin and I should like to read to you or tell you of one little passage from a Persian book, the "Chahar Magála," which is edited by a distinguished student of this hospital—Professor Edward Granville Browne, professor of Arabic at Cambridge. And while I mention Professor Browne's name I cannot help pointing out to you the remarkable fact that two students of this hospital, two who were members at one time of this society, are each of them distinguished authorities on oriental literature at our ancient universities. Professor Browne is professor of Arabic and has also lectured on Persian in the University of Cambridge, and Dr. George Ranking lectures on Persian in the University of Oxford. So it is not inappropriate to speak to the Abernethian Society, which includes such distinguished oriental scholars, a little about the Arabs in the domain of medicine.

One of the Arab writers who had most influence is generally known in this country as Rhasis, because his part of the country was known as Ray. He was Muhammad, the son of Zakarya. Soon after I became a student here, having constantly met with his name, I felt anxious to acquire some knowledge of his works. His chief work is a very large treatise on medicine called "The Continent." So I went to the British Museum and looked in the catalogue, and there I found a great variety of titles under his name but always with an Arabic sentence following the title. So I asked one of the men in the middle of the room, who generally know everything about the catalogue as well as much else, whether that Arabic sentence meant that those books were printed in Arabic, because if they were I saw no chance of improving my knowledge in this respect. "Yes," he said, "I think they are all in Arabic." I thought, however, that the books might have some notes in some other language, Latin or perhaps English, and so I wrote down the titles of all the works of Muhammad ibn Zakarya called Ar Razi and they were very numerous. I carefully wrote every one down and gave in the tickets and retired to my seat. Presently the books began to come—the size of some was enormous. The word "Continent" is applied to the book because it is supposed to contain everything. More and more of them came; I decided not to look at any until all should have arrived. At last they had all arrived and I began to look at them. Not one of them in Arabic. The writing in Arabic on the title was merely a display of learning on the part of the catalogue maker. They were either in Latin or translated from that into various European languages. That was my first acquaintance with Rhasis. I may now mention what happened afterwards because it filled me with remorse. One day a man came here when I was house physician and said, "Do you think you could get a man into the hospital who is very ill and who has been in the British Museum? You know him because he is the man who brought you some time ago all the works of Rhasis." The poor man was taken into the hospital. He had a fatal illness, but I can honestly assure you that the etiology of the illness was not to be found in carrying the works of Rhasis; it was due to quite a different cause. So I did all in my power to relieve and to cheer him but I felt that my conscience was relieved and that I had not killed him.

Ar Razi was living in the city of Merv and he was sent for by the ruler of Bokhara. At first he declined to go. They sent to him a second time. And then he said to the messenger, "Here is a treatise on medicine"—it was not the Continent but a smaller one—"which I have written. Take it to the Amir of Bokhara and tell him it is the same as myself, because it contains all that I know." But that did not satisfy the Amir and he sent again a third time, and the orders were that Muhammad was to be bound and brought across the river Oxus, whether he wished it or not. And he was. And when he came to see the Amir the Amir was suffering from some form of arthritis, probably a septic arthritis. And Ar Razi said he must give him a hot bath and that no one else must be present and that he would like to have brought to the door of the bath the Amir's best horse and his best mule, properly saddled and ready to ride, as he might need them for a particular purpose connected with the cure. All the court were sent away and the poor ruler of Bokhara, who had been unable to walk, crippled by arthritis, was carried there by Ar Razi and his servant, and taken into the bath. And he had this hot bath and stayed in it for a long time and Ar Razi in the place with him. And then Ar Razi went out and dressed himself and came back with a long knife in his hand and said, "Now I am going to murder you for having sent to me so often and having me bound and brought across the Oxus." At this the Amir of Bokhara was furious and at last he jumped up and ran about and rushed towards Ar Razi, and Ar Razi, as it were, fled from him out of the door and mounted his horse and his servant mounted the mule. Before long they reached the river Oxus and crossed it. The ruler of Bokhara stayed in the bath for some time longer, but finding that nobody came he at last dressed and walked back to his palace and so overcame the arthritis which before had prevented him moving at all. He recovered. In a few weeks the horse and mule were honestly sent back by Ar Razi with a letter, and the ruler wrote a letter in reply asking him why he had behaved in that way and Ar Razi said, "Surely you can now see that that was the only possible method of curing you; nothing but extreme rage would have induced you to extend those nearly ankylosed joints and without that you could not get over the dreadful condition of chronic rheumatism in which you were." The Amir wrote him a polite letter and sent him 2000 dinars and 200 loads of corn and settled an estate upon him.

That mention of the estate reminded me of a passage in Bentley's famous "Dissertation on the Epistles of Phalaris." Phalaris was a tyrant in Sicily who was supposed to write these epistles. They were written in a much later age, yet were published as genuine by Mr. Boyle of the University of Oxford, and in the course of his introduction he made some very uncivil remarks about Dr. Bentley, who was then keeper of the Royal library at St. James's and afterwards became Master of Trinity at Cambridge. Bentley showed that the Epistles of Phalaris were of late composition. In the epistles Phalaris is made to reward a physician who had cured him of a dangerous illness. The reward was four goblets of gold, two silver bowls of ancient workmanship, ten couple of Thericlean cups, 20 slaves, 50,000 Attic drachms, and an annuity equal to that of the High Admiral of Phalaris, a story, says Bentley, credible enough if a Sophist was the giver but not if Phalaris in ancient Sicily had to make the present. And he goes on to explain what the rates of payment in Sicily were at that time; and in the course of his argument he shows the scarcity of gold and adds that there are mentions of fees paid to physicians but they were not very large. He ends by quoting the Greek verses of Crates, the cynic, which are preserved by Diogenes Laertius. They purport to give an extract from the account book of a wealthy man. He paid to his cook £20 and to his physician 9½d., while to his flatterer he paid £900. Bentley concludes that statements about fees paid to physicians are to be accepted with hesitation in ancient writers. Perhaps the same applies to the fees of Amirs of Bokhara.

As I have mentioned Bentley I cannot help also referring to one book which, although it is not a treatise on medicine, is a treatise on the sciences connected with medicine and that is the "Reflections upon Ancient and Modern Learning" of William Wotton, published in 1694. William Wotton was a member of my own college at Cambridge and in that book you will find a better account of the anatomy, physiology, chemistry, and the physics of the reign of King William III. and the time of Richard Bentley and Sir Isaac Newton than in any other book. It is there is a manuscript of St. Paul's epistles in the actual handwriting of Bede. When Bede approached the end of his life he was still at work. He felt that he could not live much longer but he wished to conclude some works which he had in hand. One of these was a series of extracts and translations into the Anglo-Saxon language of that time of the writings of Isidore, Bishop of Seville. Here is one of the works of Isidore—the "Liber Etymologiarum"—and I show you the part which refers to medicine. Bede had not quite finished what he had to write. Cuthbert, afterwards abbot of the monastery of Jarrow, who was present at his death, relates that he had weakness and dyspnœa from two weeks before Easter and that he died on Ascension Day, 735, the dyspnœa having increased and swelling of the feet having appeared. He remained conscious to the end. Emphysema and a dilated heart explain his death. His scribe, a few hours before he died, said to him, "One passage remains incomplete but it is difficult to ask you to do any more." But Bede said: "Facile est accipe tuum calamum et tempera festinanterque scribe." And a little later the scribe, whose name was Uullberche, said: "Dear master, one sentence is still unwritten." "Well," said Bede, "write," and he dictated it. And soon after it was written he felt he was actually dying and a little later he did indeed die. Thus it seems likely that an Anglo-Saxon translation of a passage of Isidore was the very last work of Bede. This Isidore was Bishop of Seville in Spain in the year 601. What he has to say on the subject of medicine is contained in 13 chapters. The first defines its nature: "Medicine it is which preserves or restores the health of the body, it deals with diseases and wounds"—very simple and straightforward. The next chapters discuss its name, its originators, its various hypotheses, and the fourth chapter defines the humours of the body. Chapter VI. describes the acute diseases; those which swiftly pass off or soon kill. He gives as examples of acute disease pleurisy and frenzy, and as examples of chronic disease, gout and phthisis. He goes on to define fever, frenzy, palpitation of the heart, and cynanche. "Pleurisy," he says, "is an acute pain in the side with blood-stained sputum," a most interesting remark, because it shows that many of his cases of pleurisy were certainly cases of pneumonia. "Pneumonia (peripleumonia) is a disease of the lung with pain and shortness of breath." Apoplexy, spasm, tetanus—which he defines as a contraction of the tendons from the root of the neck to the back; a stroke, hydrophobia, carbuncle, and plague are the other acute diseases which Isidore mentions. In Chapter VII. he treats of chronic diseases, a most curious collection—gout, headache, scothomia, vertigo, epilepsy, mania, melancholia, typhus (which was a term not used in the specific sense in which we use it but a very general term for any febrile condition in which the mind was obscured), reuma, catarrh, choryza, branchos, raucedo, dyspnœa, peripleumonia, phthisis, cough, abscess, empyema, hepatitis, lienitis, dropsy, nephritis, paralysis, cachexia, atrophy, sarcoma, ischiasis, stone, strangury, satyriasis, diarrhœa, dysentery, colic, ragates. The eighth chapter is about diseases of the surface of the body—baldness, mumps, scabs, elephantiasis, jaundice, and cancer (on which latter he had already made the truthful observation, "Not curable by any drugs"), furunculosis, ulcer, pustule, papule, and cicatrix. A chapter of remedies comes next. He encourages their use by saying that Isaiah prescribed them to Ezekial when ill and that Paul advised wine to Timothy. The tenth chapter seems at first to be on the subject of this lecture, medical books, but is found to deal not with authors but with the kinds of composition, "aphorism is a statement writing tersely the matter proposed—prognostic is the prevision of diseases—a physician ought to recall the past and know the present and foresee the future." The chapter is very short. The eleventh chapter is on instruments, the twelfth is on ointments, and the last is on the study of medicine and the desirability of a comprehensive knowledge in it.

This short summary gives you an idea of what was the medical knowledge of Isidore and it is worth considering because the "Liber Etymologiarum" was a book which for a great many hundred years was regarded as a treatise which everyone might study with advantage, and it was to be found in every library. There is no author of that period of whom you find in the old libraries more manuscripts. Some time ago I had to go to the town of Aix in Provence and when I had done the professional business which took me there I went to see the library and I noticed that they had some manuscripts. The librarian, a very intelligent man, came to me and said: "Are there any manuscripts you want to see?" I said, "Yes; I should like to see any manuscripts that you have of the 'Liber Etymologiarum' of Isidore of Seville." He immediately produced two fine manuscripts for me. I looked into the book of Mr. Montague James, the provost of King's College, a most extraordinarily learned man, who has published a great number of catalogues of the mediæval libraries of England, and in nearly every one of those you will find one or more copies of Isidore. So it was one of the most accessible and one of the most often read books of the time. And I ask you to consider for a moment what the period was. If you look in catalogues in the British Museum or elsewhere you will generally find that the last of the classical writers is considered to be Boethius, who wrote a well-known book of which there are innumerable manuscripts and many printed editions too—"De Consolatione Philosophiæ"—a book which was said to have been translated by King Alfred. Boethius died between 530 and 540 and that was considered to be the end of the period of classical learning. Isidore, you will remember, became Bishop of Seville in the year 601, so that he represents the knowledge of medicine as it existed or was prevalent in Europe after the obscuration of the learning, or the greater part of the learning, of Greece and Rome and before any modern learning had arisen. Think for a moment of the relation of this book to us here in England. It was written in the year 601. That seems a very remote time and yet in my practice as a physician I have twice actually been brought in contact with that period. I will explain to you how. 601 was the year when first the Bishop of London appears in history. At that time the King of Kent, as you know, was Ethelbert. But Ethelbert's sway was not confined to the county of Kent; it extended into the country now known as Essex and even to the south bank of the Humber. He was a very powerful king and he gave to the Bishop of London a piece of land in Essex, Tillingham, near the mouth of the Thames; there is a decoy for wild fowl there at the present day. It continues in the possession of the Dean and Chapter of St. Paul's. When, in the last century, the Ecclesiastical Commission, which manages such a large part of the ecclesiastical estates in England, was established, the Cathedrals, if they liked, gave up their land to the Commission and received the certainty of a definite income, at the same time parting with the management of the land. If they desired they could keep the land and it was managed in certain other ways. The Dean and Chapter of St. Paul's gave up their land with the exception of this one estate at Tillingham. They said that, having been given to St. Paul's in the time of King Ethelbert, it was almost the oldest transmitted estate in the United Kingdom. No doubt it was the oldest; it was, indeed, older than the throne of England. And the way in which I have been brought into contact with the period of Isidore and that of King Ethelbert is this: on two occasions I was consulted by a Dean of St. Paul's as to whether it was prudent, in his state of health, for him to pay a winter visitation to Tillingham, which had been the custom of the Dean from time immemorial. So curiously, you see, is the history of the past joined on to the history of the present. And I, who began by pretending to extend my personal knowledge to 100 years, must now extend my years of contact with the past to 13 centuries. Isidore was Bishop of Seville in Spain, and when you go to Spain and travel through the country and look for any traces of what was going on in his time you will find that they are very few indeed. When I visited Spain on the last occasion I looked out to see what traces of any kind there were of that period. There were hardly any. In Granada, in the market place, on the stalls where they sold old metal, there were a few small copper coins of the Gothic kings of Spain, little heaps of them, I suppose dug up in the neighbourhood, and that was all. In the cathedral of Toledo there is a chapel where a peculiar rite, which was the original Gothic rite in Spain, is still carried out on certain days in the year. But those two traces were almost the only ones relating to the time of the Goths and of Bishop Isidore which I observed in Spain.

Now, why was there so little trace of those times? In that very city of Toledo itself there is a small church in a little narrow street in which when you enter you seem to be transported to Algiers or to some place further east. It

England certainly, due to these great Fellows of the College of Physicians.

I have already lectured long enough, and you will see I have upon the table a great many other books. Here is Wepfer's "Treatise on Apoplexy," which when once you have read you will be sure to read often. It is delightful from the way in which each observation reveals a little more truth to him till a great addition to knowledge is established. Here is Nicholas Tulpius, whose portrait giving an anatomy lesson was painted by Rembrandt. He was the first person to give a drawing of fibrinous bronchitis and one of the first to describe beri-beri. Here are the volumes of Morgagni, and there is the Sepulchretum of Bonetus. They hit upon the plan of collecting large numbers of cases of morbid anatomy and putting them side by side with clinical notes, and so was founded the modern method of the study of morbid anatomy. Here is Dr. Freind's "History of Physic from Galen to the Revival of Learning"; it is the best history of physic in English. Freind was a great physician and was sent to the Tower because it was supposed he was concerned in a plot to bring in the House of Stuart in the reign of George I. His imprisonment had this beneficial result, that it gave him the leisure in which to write this book which he had long had in his mind. It is one of those books which satisfies you whenever you read it. He makes the contents of the writers of that period delightfully clear. Here is the treatise of Dr. James Douglas on all the writers of anatomy, "Bibliographiæ Anatomicæ Specimen," a small shabby-looking book now, but which you will never consult in vain. He has read every book which he mentions and gives a most precise account of each writer. Here are the two authors which I remember devoting most time to when I was reading for my bachelor of medicine degree, the lectures on medicine of Sir Thomas Watson and the treatise on medicine by Dr. Felix von Niemeyer. They are both excellent books, both now obsolete in many parts as you will see from this extract: "Mr. Paget" (that is Sir James Paget) "states his belief that there are no signs, microscopic or other, by which degenerate lymph or pus can be with certainty distinguished from ordinary tuberculous matter." Niemeyer was an excellent physician of the most precise method, who always begins by describing first hypertrophy of an organ and then atrophy of it, and so continues all through the body, and divides all kinds of inflammation into catarrhal, and croupous, and diphtheritic. I feel deeply grateful to those text-books. Watson is written in the most admirable style, and contains many passages which will always remain worth reading in English medicine. Niemeyer contains amidst the drier collection of facts several touches of humour, such as the mention of the wife of a Prussian general who held that the whooping of whooping-cough was voluntary, and said if children were whipped sufficiently they did not whoop much. And the other remark of Niemeyer himself as to the difficulties of determining the causes of alopecia, in which he says that people declare alopecia is due to excessive learning or to extreme dissipation, according as they take a favourable or unfavourable view of human nature.

These are a few of the books which at different times have given me pleasure or to which I feel grateful. But, of course, books which please one man do not necessarily please another; every man must choose his own; and you will find it a useful training of your minds in the practice of medicine to make some friends, permanent and long-lasting friends, among medical writers.

ROYAL ACADEMY OF MEDICINE IN IRELAND.—The annual general meeting of the Royal Academy of Medicine in Ireland took place at the Royal College of Physicians of Ireland on Oct. 12th, when Dr. J. Magee Finny was elected President in succession to Sir Thornley Stoker.

UNIVERSITY OF OXFORD.—Degree days for the ensuing term are announced as follows: Thursday, Nov. 8th, at 10 A.M.; Thursday, Nov. 29th, at 10 A.M.; and Thursday, Dec. 6th, at 10 A.M.—Scholarships in natural science are offered for competition as follows: Dec. 4th, Balliol College, Christ Church, and Trinity College; Dec. 11th, University, Lincoln, and Magdalen Colleges; and Jan. 15th, 1907, Jesus College.

SOME OBSERVATIONS ON ENLARGED VEINS IN CHILDREN.[1]

BY ALEXANDER G. GIBSON, M.A., B.M. OXON., M.R.C.P. LOND.

1. *Introductory*.—A large number of children attending the out-patient department of a hospital suffer from general debility, wasting and listlessness. A cursory examination of such cases reveals nothing abnormal but more careful observation in many cases shows a ramification of small venules on the chest and elsewhere. Many of those in whom venules are easily seen also show a certain degree of prominence of one or both jugular veins.

2. *Conditions of the veins in these cases*.—The venules seen on the chest are small ramifications flush with the surface of the skin; in front they tend to converge towards the upper part of the sternum but behind they usually show a stellate arrangement. In some of the most marked cases large veins can be seen as far out as the deltoid region. As a rule no veins are seen below the chest but I have seen cases in which there was no abdominal disease showing such venules about the groin. The jugulars can almost always be seen either as blue streaks or distinctly dilated; one or both sides may be affected. Veins can frequently be seen also under the chin, at the temples, and very occasionally on the forehead. A normal adult from a number of causes may present a full jugular vein, but in very few children with no suspicion of disease is such a condition seen. In adults a large jugular vein is always emptied during inspiration, a fact which can most readily be verified by watching the neck of a person breathing deeply under ether; but in children who have large jugular veins together with venules on the chest a deep inspiration produces only a slight collapse, if any, of the veins; this is true of the upright as well as the recumbent position. Records have been kept of 14 cases showing visible venules together with dilated jugulars which behave abnormally on respiration. The descriptions are in some details incomplete, taken as they were in the hurry of hospital practice and many points were noted in the later cases which were omitted from the earlier.

3. *Description of cases*.—CASE 1.—The patient, a boy, aged eight years, was taken to hospital because of wasting and a "dry" cough in the morning. There were enlarged veins in both supraclavicular fossæ which did not completely or quickly collapse on inspiration. The chest was fairly well formed and measured 11¼ inches on the right side and 11¼ inches on the left. The note was very slightly duller on the right side than on the left in front and behind. The breath sounds were normal and equal in intensity; there were no adventitious sounds. As regards the heart, a systolic murmur was heard at the apex not traceable outwards but heard up the sternum to the second right costal cartilage; it was not altered on retraction of the head. The abdomen was normal. No superficial enlarged glands.

CASE 2.—The patient, a female, aged eight years, had always been a delicate child. Her appetite was bad, she vomited occasionally, and had been getting thinner lately. She suffered from a cough of a somewhat paroxysmal nature, bringing up a very small amount of phlegm. She occasionally had some pain over the præcordium. The bowels were regular. A few prominent venules were seen on the chest, the jugulars were large and did not collapse completely on inspiration, the temporal veins were easily visible, and the capillaries of the face were dilated on the cheeks. There were no veins on the abdomen. The hair on the skin was not markedly long. The chest signs were not abnormal; a retraction murmur (systolic) was present over the upper part of the sternum. A few glands were felt in the groins and in the neck. The tonsils were not large and there were no adenoids.

CASE 3.—The patient, a female, aged nine years, was taken to hospital because of indefinite ill-health for five or six months, pains in the joints, and cough of a barking and paroxysmal nature. There was no sputum; the appetite was fair but sometimes failed; there was no sickness; the bowels were costive. There was no tuberculosis in the father or mother; her grandfather, however, lost three sisters from consumption and of the family of which she was one there most admirably and clearly written. Wotton himself was a very extraordinary person. In the university library at Cambridge there is a small manuscript note about his education, written at the time and well attested. At the age of four years and six weeks he could read a psalm; at five years he could read St. John's Gospel in Latin and Greek. Before he was six he could read the first psalm in Hebrew, Homer and Virgil, and Terence. Sir Thomas Browne, the famous physician of Norwich, heard him between six and seven years of age recite Spenser in English, translate a piece of Virgil, translate some of Homer, and the first verse of the fourth chapter of Genesis from the Hebrew. He entered at St. Catharine's College before the age of ten and he took his degree before he was 14. He died at the age of 60 and a remarkable point about him, and an interesting one to us as observers of the growth of children, is that he was throughout his life the friend of most of the learned and eminent people in literature and science of the time and that nearly all his writings—and they are rather voluminous—have the same merits as that dissertation on ancient and modern learning. There is in them all the same character of extreme precision, extended learning, and perfect clearness. One is sometimes inclined to believe that the infant prodigy never turns out well. But this is rather a striking example to the contrary.

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[1] A paper read at the Oxford meeting of the Society for the Study of Disease in Children on June 23rd, 1906.

There is one other Arabian whom I should like to mention, because he is so constantly quoted. He is called Avicenna. Professor Browne has published several interesting cases from Avicenna. The cases given by Arabian physicians often illustrate the importance of considering the relations of the feelings and the mind to the body. Avicenna was sent for to see some prince in the northern parts of India who had been lying ill, for which illness nobody seemed able to find the cause. And Avicenna thought it very likely that the cause was that the prince was in love with some lady in a distant place and was prevented from communicating with her. And so Avicenna turned the conversation to different countries of Asia, and, finally, some State was mentioned, and he noticed at the same time a distinct change in the young prince's pulse. And then he asked whether there was anyone who could repeat the names of the chief towns of this State. Someone came and repeated the names, and he noticed again a change in the pulse. "Is there anyone who can repeat the names of the streets in that town?" And in that way he found out the very street. And he turned to the prince's father and said, "There is no doubt the cause of the illness and depression is that there is an interference with affection." The lady was found and they were married and the prince recovered completely.

I remember, when I was a student of medicine here, coming across in a manuscript (Additional 15,403 Brit. Mus.) a sentence of Avicenna recommending the use of caraway in fever, thereby suggesting an experience such as that stated in the recent lectures of Dr. F. F. Caiger at the Royal College of Physicians of London. Dr. Caiger thinks that oil of cinnamon is a soothing remedy in enteric fever, and Avicenna says: "Cum caravi carui nunquam sine febre fui." That is a line which looks simple enough but "caravi" is not to be found in the Latin dictionary. It long remained to me uninterpreted. It is fixed in my mind because, going to see that distinguished scholar, Professor Robertson Smith, a Fellow of Christ's College and once professor of Arabic at Cambridge, within a few weeks of his death, when he was very ill in bed, I mentioned this line, and Professor Robertson Smith at once brightened up and said, "Go into my next room and bring me such and such a book." I brought it in and he said, "Go and bring another." And I brought another, until finally the whole of the lower part of the bed was covered with great books, chiefly in Arabic, and from these he demonstrated what the meaning of the word *caravi* was. It was a Latin form of the Arabic word for caraway seeds. So what Avicenna said was, "When I had no caraway seeds I was never without fever." Avicenna will always be connected in my mind with Robertson Smith. The latter came from Aberdeen, entirely foreign to the University of Cambridge, but before he had been there a year he became as distinctly a part of Cambridge as if he had been bred there, and continued so to the end of his life, delighting everyone by his vast learning and interesting conversation.

There is one little book on the table which I cannot avoid mentioning because it is the very first book on medicine which I ever read. It is called "The Flower of Medicine" or more often "Regimen Sanitatis Salerni"; it contains the doctrines on regimen and treatment of the school of Salernum in Southern Italy. It is a series of Latin verses on the art of preserving health, on diet, on pharmacology, and in its first line a King of England is addressed:[2] "Anglorum regi scribit schola tota Salerni." The lines say, if you wish to be healthy, if you wish to remain well, avoid serious care, believe it wrong to be angry, spare wine, eat little supper, rise at once from table after meals, and flee midday sleep. These, if you will follow, you will live for a long time. The book every now and then breaks out with an enthusiasm which I have never met with in any other work on materia medica, though now and then you find it expressed by a man who has taken to prescribing some particular drug for this disease or that—

> "Cur moriatur homo cui salvia crescit in horto?
> Contra vim mortis non est medicamen in hortis.
> Salvia confortat nervos manuumque tremorem
> Tollit, et ejus ope febris acuta fugit.
> Salvia salvatrix, naturæ conciliatrix
> Salvia dat sanum caput, et facit hoc adrianum."

"Why should a man die who grows sage in his garden? Only because against the force of death there is no drug to be found in gardens. Sage soothes the nerves and checks tremor of the hands and reduces the temperature in ague. Sage, the remedy for most things, the consoler of Nature, cures headache and so does the preparation adrianum." Borage is scarcely less praised. "O borrago bona, tam dulcia sunt tua dona"; and nuts as heartily denounced, "Unica nux prodest, nocet altera, tertia mors est." This book and the writings of Isidore and some of these Arabs such as Avicenna certainly were the day stars and guides of medicine in this hospital for the first century of its existence.

The revival of learning came, men had once more the opportunity of studying Greek literature, and that introduced them to all the greatest works of the human mind which had then appeared in the world and showed them that the true way to proceed in medicine and in every science was that of the observation of nature. The beginning of the revival of learning really consisted in learning Greek and in reading these great Greek books. This went on for a considerable time, and I always look with a certain amount of respect on that little book of the aphorisms in verse, which was written by the regius professor of medicine at Cambridge, who died in the year 1636—that is to say, in the reign of King Charles I.—and which may be regardsd as the end of that part of the revival of learning, the end of the mere study of Greek. Ralph Winterton translated the aphorisms of Hippocrates, books of short sentences, in which Hippocrates sums up the conclusions of his medical and therapeutic observations. He translated all of them, first into Greek and then into Latin verses, and of all the books written by the regius professors of medicine at Cambridge, this is the one which has received the most distinguished praise. It has prefixed to it verses by members of every college but one of Cambridge, by the heads of several of the colleges, by most of the then University professors, by the chief learned men of the University of Oxford, and by nearly all the chief Fellows of the College of Physicians. Among the colleges no member of St. Catharine's praised it and among physicians Harvey was peculiar in not writing in its favour, but notwithstanding these exceptions such a chorus of praise as it received has never since greeted any single book of a professor of medicine. I view it with interest—and I look into it every now and then—as the final end of that part of the Revival of learning which consisted in the study of Greek.

From studying Greek people came to see how the Greeks observed and very great men of observation came upon the scene. Prominent among these Gilbert. Although his writings are not medical we must venerate him as the person who discovered the magnetism of the earth. Harvey and Glisson came after him. These were the great men who showed *not only* that Greek had been learnt but that the lesson of the Greek writers had been learnt, and that that learning was really a revival of science. And it is to these physicians and not to Bacon that the true method of science in Europe is due. Bacon was known in the world of letters, and he has often been praised as if he was the first person to teach that the true method of science was to observe nature and so to draw conclusions. But that is not so. If it was due to any one set of men it was, in was found in the flanks. The temperature was intermittent and the pulse was 150. The leucocytes numbered 22,000 per cubic millimetre of blood. An operation was performed in view of the possibility of there being a collection of pus in the right iliac fossa but an enlarged thickened appendix was found studded over with tubercles, tubercles being abundant on the neighbouring peritoneum, and a large mass of glands in the iliac region. This patient died and the mediastinum was examined; it is described later.

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[2] Some manuscripts begin, "Francorum regi," and are said by commentators to refer to Charlemagne. These have a different text from the more numerous MSS. addressed to "Anglorum regi."

Case 13.—The patient, a male, aged six years, had measles nine months previously; five months previously he had a "cold" in his abdomen and pain. The week before admission he had pain in the abdomen. He was a delicate child but no tuberculous history was elicited. The patient was a fairly healthy looking child. The colour on the cheeks was slightly bluish. He had long eyelashes, otherwise the hair was not abnormal. Veins were seen on the temples, ears, and chest. Both jugulars were enlarged, the left being larger than the right; neither collapsed on deep inspiration. The subcutaneous fat was fair in amount. The chest was normal but a blowing retraction murmur was heard in systole and diastole. In both submaxillary regions there was a gland, larger in the right, which was of about the size of a Barcelona nut. Small glands were felt behind the sterno-mastoids, one on either side; the axillæ and groins were free.

Synopsis of the Cases.

Case.	Age and sex.	Complaint and chief symptoms.	History of tuberculosis in family.	Enlarged jugular veins.	Do they collapse on inspiration.	Veins on chest.	Veins on back.	Veins under chin.	Veins on temples.	Condition of hair of skin.	Eustace Smith retraction murmur.	Glands.	Tuberculous lesions elsewhere.
1	8, M.	Wasting; cough.		+ (R. & L.)	No.	+				—	+	—	—
2	8, F.	Wasting; cough; vomiting.		+ (R. & L.)	"	+			+	Downy.	+	—	—
3	8, F.	Debility; cough.	+	+ (R. & L.)	"	+				"	+	One gland in neck.	—
4	8, F.	Failing appetite.	+	+ (R. & L.)	"	+			+	—		Small glands in neck.	—
5	5, F.	Failing appetite; wasting.	+ (?)	+ (R. & L.)	"	+				—		"	—
6	9, F.	Lassitude; breathlessness on exertion.	+	+ (R. & L.)	"	+			+	Downy.	+	"	—
7	7, F.	Irritability; cough.	0	+ (R. & L.)	"	+				"	+	Two large and several small glands in neck.	—
8	7, M.	Diarrhœa and vomiting in attacks.	+	+ (R. & L.)	"	+				"	+	Absent.	? Tuberculous peritonitis.
9	5, M.	"Weak chest"; cough.		+ (L.)	"					"			—
10	5½, M.	Debility; "chest trouble."	+	+ (R. & L.)	"		+		+	—	+	Gland at angle of jaw.	—
11	4, F.	Debility; bad appetite.	+	+ (R. & L.)	"	+				—	+	Gland in the neck and right groin.	—
12	10, M.	Wasting.		+ (L.)	"	+		+	+	—	0		Tuberculous peritonitis.
13	6, M.	Delicate boy.	0	+ (R. & L.)	"	+			+	—	+	Submaxillary glands.	—
14	6, M.	Debility; frequent defæcation.		+ (R. & L.)	"	+	+	+	+	—	+	Glands in neck.	Developed tuberculous peritonitis.

R. = right; L. = left; + = present; 0 = absent.

Case 14.—The patient, a male, aged six years, until nine months previously was a healthy boy but since then had suffered from a frequency of defæcation. The desire was especially after food and was sometimes so sudden that he had to leave the table. The motions were light yellow, at times liquid, and always very offensive. His general health was failing, he was getting thin, and only "picked" at his food. Occasionally he was sick in the morning; he brought up sometimes as much as a pint at once. He was less playful and more irritable than formerly. He had had measles, pneumonia, and "brain fever" when three years old. His father had abscesses in the neck and a maternal great-aunt suffered from consumption. He was a thin, delicate-looking boy. Veins were seen on his temples, chest, back, and groins. The jugulars were large and did not collapse completely on inspiration. The lungs were normal; a well-marked murmur was heard. One gland was felt on each side of the neck of the size of a large pea; the tonsils were normal and there were no adenoids. The abdomen was prominent, doughy, and showed no definite fluid or tenderness. One month later there was definite evidence of fluid in the abdomen and a slight lump developed later in the umbilical region.

In the accompanying synopsis will be seen the main features of these cases. 50 per cent. are male and 50 per cent. are female; the ages range from four to ten years. In 57 per cent. there is a history of tuberculosis in the family; visible veins on the chest are present in 92 per cent.; downy hair in 42 per cent.; a Eustace Smith retraction murmur in 71 per cent.; and palpable glands in the neck in 64 per cent.

4. *The cause of the conditions in the veins.*—I believe these cases to be examples of tuberculous bronchial glands described by Barthez and Rilliet[2] and amongst English writers by Eustace Smith.[3] The former writers, who first accurately described the condition clinically, refer to the conditions of the veins as follows: "*Dilatations, veineuses, &c.*—Un phénomène que nous n'avons que rarement observé, peut-être parceque notre attention n'a pas été suffisamment portée sur ce sujet, est la dilatation des veines du cou. Elle était fort remarquable chez un enfant de cinq ans, qui présentait à lui seul la plupart des symptômes de la phthisie bronchique. Elle est analogue à la dilatation des veines abdominales, que l'on observé quelquefois dans la phthisie mésentérique. D'autres effets de la compression vasculaire se rapprochent du précédent et doivent être mentionnés bien qu'on ait rarement occasion de les constater; nous voulons parler de la teinte violacée de la face, des lèvres et de la langue, résultat évident de la congestion veineuse. Les larges anastomoses qui existent entre toutes les parties du système veineux supérieur expliquent le peu de fréquence de ces symptômes. Le facies de quelques uns des malades, se reproche de celui que l'on observe chez les individus atteints de maladies du cœur. Cependent, nous n'avons jamais constaté de lésion anatomique ou fonctionnelle de l'organe central de la circulation." Eustace Smith, the only writer of recent years so far as I have been able to find who refers to the condition of the veins more than to mention the possibility of venous obstruction, mentions that enlargement of the

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[2] Barthez et Rilliet: Maladies des Enfants, tome III., p. 623, second edition, 1854.

[3] Eustace Smith: The Wasting Diseases of Children, sixth edition, 1899, p. 302.

were eight living while three were dead, one dying from "rapid consumption," another from meningitis, and a third from a cause not known. The patient was a thin child, especially so about the shoulders; the hair of the skin was very long. Veins were seen over the front of the chest; the jugulars were easily visible and did not collapse on inspiration. Of signs in the chest there was no dulness or diminished expansion of one side more than the other, the breath sounds were very slightly harsher on the right side, and there was a slight systolic murmur over the upper sternum on retraction of the head. There was one gland on the right side of the neck of about the size of a filbert and one on the left side about the same size. The mucous membrane of the throat was thick and pale.

CASE 4.—The patient was a female, aged eight years. For some months she had had a failing appetite and had been looking paler. She had had no cough. There were nine children in the family, all being healthy except the patient. The father suffered from consumption. Once the child passed some round worms. The patient was a well-grown but thin and pale girl. On the chest there were many visible veins in front, not lower than the xiphisternum, and above they stretched out towards the shoulders. Veins were seen on the temples and the jugulars, which were enlarged, did not properly collapse on inspiration. The chest moved fairly well, if anything more on the right side. The right side measured 12¼ inches and the left 11¼ inches. The percussion note was very slightly duller on the left than on the right side, especially in the axilla. Breath sounds were well heard. No adventitious sounds were heard. The heart was normal but over the aortic region was a loud diastolic and feebler systolic murmur. There were no glands in the groins or axillæ but a few small ones were found in the neck. The abdomen was normal. The throat also was normal.

CASE 5.—The patient, a female, aged six years, suffered from loss of appetite and had got thinner, paler, and more languid lately; she was often sick and she had occasional headaches. The bowels were regular. She was the twelfth child; five of these had died from chest troubles. She had chicken-pox two months ago, since which time she had been worse. Veins were seen on the chest in front; the jugulars were large and did not collapse on inspiration. A retraction murmur was present. Glands were felt on both sides of the neck and in both axillæ, small and soft. The throat was normal and no adenoids were present. With treatment this child increased three pounds in weight in a fortnight, became less pale, and the appetite improved.

CASE 6.—The patient, a female, aged nine years, suffered from lassitude and dyspnœa on exertion. There was no loss of appetite. This had been going on for a year, during which time she had got much paler and thinner. She had a little cough in the morning and she had been much subject to "colds." The bowels were regular. She had had measles three years ago. Her grandfather died, as far as could be ascertained, from consumption. A few dilated veins were seen over the sternum. The jugulars did not collapse properly on inspiration. There were also veins on the temples. There was a well marked retraction murmur. Glands of about the size of filberts were felt on either side of the neck in the anterior triangle and a few shotty glands in both clavicular triangles. The hair on the back was downy.

CASE 7.—The patient, a female, aged seven years, had been ailing for three years. She was irritable, suffered from cough, which was relieved on bringing up a small amount of mucus; she had got paler and had a bad appetite. The bowels were regular. She sweated sometimes at night. She had had measles twice; there was no history of consumption in the family. The mother had had four children, two of whom died at birth. There were a few dilated veins on the chest; the jugulars were prominent and did not collapse properly on deep inspiration. The hair on the back was downy. There was a retraction murmur, the chest being otherwise normal. One gland on each side of the neck was felt and a few shotty ones in the posterior triangle and groins. The tonsils were slightly enlarged. There were no adenoids.

CASE 8.—The patient, a male, aged seven years, had bad diarrhœa and sickness every three or four weeks for three years. An attack lasted two days. The motions during the attack were white and frothy and there was great pain. He had had no previous disease. There was consumption on his father's side. The patient was pale and undergrown. The muscles were wasted; the hair on the back was downy. The veins on the chest were numerous; the jugulars were prominent and did not collapse on deep inspiration. In the chest there was an impaired note in the upper part of the right chest with bronchial breathing further to the right of the sternum than normal but there were no adventitious sounds. A retraction murmur was present. The abdomen was full, the walls were thin, showing coils of bowel through; it had a doughy feel and some doubtful deep glands were felt. The liver and spleen were normal. No glands were felt anywhere. This child had a febrile attack with crepitations on the right side of the chest during my observation of him; he also developed a little fluid in the abdomen but both signs cleared up and recovery was complete with a marked increase in weight.

CASE 9.—The patient, a male, aged five years, was brought for advice about lumps in the neck. He had suffered from bronchitis every winter and had had whooping-cough. He was getting feebler for the last two months; he coughed a great deal and breathed badly at times. The glands had been present for three months. There was a strong history of consumption on the mother's side. The face was pale, the skin was very dry, the hair on the back was fine and long, the nutrition was poor, and the fingers were not clubbed. There were veins on the front of the chest and the jugular, which was prominent, did not collapse on inspiration. Measurement of the chest gave: right side, 9¼ inches; left side, 10½ inches. The right side gave a slightly impaired note compared with the left. Breath sounds on the right were bronchial at the apex, becoming broncho-vesicular and, finally, vesicular at the lower limits of the lung in front and in the axilla. Behind the air entry on the right side was less. In the neck there were many enlarged glands, some large, some small; the larger ones were matted together. There were small glands in the axillæ. The tonsils were large. The spleen was two inches below the costal margin and the liver one inch below. There was no fluid in the peritoneal cavity. The blood count showed a secondary anæmia with no change in the white cells. This case was supposed to be a case of lymphadenoma but the further symptoms—matting together of glands, condition of the hair on the back, &c.—seemed to point to a chronic tuberculosis of the glands.

CASE 10.—The patient, a male, aged five and a half years, had had some chest trouble one year ago. There were two living children in the family; one died from pneumonia and there had been one miscarriage; no history suggesting syphilis was obtainable. Two maternal uncles had died from consumption. A few venules were seen on the back; the temporal veins were seen and the jugulars were prominent and did not collapse completely on deep inspiration. Measurement of the chest gave: right side, 11½ inches; left side, 11¼ inches. On the right side vocal resonance was slightly increased and the breath sounds were slightly diminished in intensity. No adventitious sounds were heard. There were glands at both sides of the neck in the region of the angle of the jaw and a few smaller ones down the neck. The tonsils were large.

CASE 11.—The patient, a female, aged four years, had never been a healthy child; her appetite was variable and she was always constipated. She had had a slight cough recently and sometimes sweated at night. A paternal uncle died from consumption. She was a pale, thin girl and showed veins on the chest and upper part of the abdomen. The jugulars were large and did not collapse on deep inspiration. The chest measurement was 9¾ inches on the right and 10 inches on the left. The note on the right side was slightly flatter than on the left. The abdomen was full; the liver was one inch below the costal margin; what appeared to be mesenteric glands were felt in the umbilical region. One large gland lay under the sterno-mastoid on the left side of the neck; a few smaller ones were felt in the right groin.

CASE 12.—The patient, a male, aged ten years, had suffered from wasting for ten months, previously to which he was a healthy boy except for bronchitis about one year ago. Two other children were healthy. There was no history of tuberculous affections. The patient was thin and wasted, with a soft sweating skin; the features were pinched. Veins were obvious on the chest, abdomen, chin, temples, and neck. The left jugular vein was large and did not collapse on deep inspiration. The hair of the head was thin and wiry. On the right side of the chest the note was slightly flatter than on the left; breath sounds were poorer and had a slight bronchial element. No retraction murmur was heard. The abdomen looked natural but on palpation had an irregular mass in the right iliac fossa. Some shifting dulness similar to that which befalls the appendix when situated within the abdomen. The second is strangulation of the appendix at the hernial ring. The former condition is the better recognised one. It is more frequently observed in the inguinal than in the femoral hernia and this probably so because of the comparatively high frequency with which it occurs in children in whom inguinal hernia is so exceedingly common. In appendicitis occurring in a hernial sac the appendix may be the sole content of the sac or may be present together with other viscera. In appendicitis occurring in inguinal hernial sacs in man the proportion is very nearly equal. Thus Wassiljew found that in 31 cases the appendix was the only content of the sac, in 23 cases in addition to the appendix the cæcum was also present, and in eight cases other portions of the intestine were also present. In appendicitis occurring in femoral herniæ the appendix appears to be more often the only content. When the herniated appendix becomes strangulated naturally it is the sole content of the sac, although in a few cases some omentum has also been present to which further reference will be made.

It is a matter often of considerable difficulty to distinguish between the inflamed appendix and the strangulated appendix in hernial sacs. In the literature are many cases recorded as incarcerated or strangulated appendices when the sac is full of pus, the appendix perforated or gangrenous, and, in fact, has every appearance of being acutely inflamed. It is conceivable that such a case may be one of primary strangulation and later acute inflammation, but this it is impossible to say and in my statistics such cases are omitted. On the other hand, some cases are recorded as appendicitis which pathologically and clinically seem undoubted examples of pure strangulation. The appendix when incarcerated rapidly swells and has appearances simulating an acute inflammation. In the majority of cases the differentiation can only be made in the early stages. Later the distinction is practically impossible since the strangulated appendix becomes acutely infected, and the primary cause of this cannot with certainty be told. Both diseases have an abrupt onset with pain in the hernial region, often abdominal pain, either around the umbilicus, lower abdomen, or more diffused and colicky in character. Vomiting is common to both. In appendicitis the temperature is elevated from the beginning, but this perhaps is not so marked as when an abdominal appendix becomes inflamed, since a thickened hernial sac does not react in the same way as does normal peritoneum; in strangulation of the appendix the temperature is subnormal at the onset and only rises later when inflammatory changes set in. The inflamed appendix rapidly gives rise to evidences of inflammation of the coverings; the skin will soon become reddened and œdematous; in the strangulated appendix such changes are much longer delayed. Pathologically the strangulated appendix has in the sac clear, slightly turbid, or blood-stained fluid with an absence of inflammatory lymph. The appendix is in a condition of venous hyperæmia only, is in the majority of cases free from adhesions, and has not any concretions in its interior; it shows at the level of strangulation a distinct furrow. Its mesentery is equally affected in this venous hyperæmia. After division of the constricting agent it has been noticed by Honsell and myself that the colour of the appendix changes, as does any portion of strangulated bowel. It is interesting to note in this connexion that it is as safe to reduce an incarcerated appendix as any other portion of the bowel. This has been done in at least 15 cases and the after clinical course was apparently as smooth as any simple strangulated hernia. The after course of an inflamed appendix which had been reduced would probably be very different.

From the literature I have collected 53 cases (including three of my own) which I regard as examples of strangulation of the appendix. In by far the majority of cases the appendix is the sole content of the hernial sac. In four, however, the omentum has also been present and both appendix and omentum are strangulated. In one of Koerte's cases an old woman had an adherent omental hernia for some time. An acute incarceration forced operation three days after the beginning of the symptoms. Barnsby records a case of a woman 45 years of age who for four years had complained of colic in the right iliac fossa coming on in crises. A femoral hernia was found; it was easily reducible. A bandage was worn and then abandoned. Acute symptoms of strangulation followed and on the fourth day of the illness at the operation the sac was found to contain a quantity of black fœtid liquid, a portion of omentum, and the appendix with its cæcal attachment. The omentum and the cæcum close to its appendicular attachment were strangulated; these were removed through an abdominal incision. Leguen records a case of a woman, aged 53 years, who suddenly after some effort was seized with colic and noticed for the first time a swelling in the femoral region. The symptoms continued and on the tenth day of the illness an operation was performed; the sac contained in addition to the appendix some epiploic fringes of a black colour; both were removed. Bundschuh records a case of a woman, aged 60 years, who for two years had had a right femoral hernia; acute pain and nausea developed and the hernia became irreducible. Operation was performed on the third day of the illness. The sac contained turbid fluid, a strangulated appendix, and hæmorrhagic omentum; both the latter were resected.

The appendix herniates by virtue of its free mobility and its situation in the abdomen. The length of the appendix is not an etiological factor. In only one or two cases is the appendix mentioned as being of excessive length. It is not the whole appendix which usually lies in the hernial sac, although this may be so and even include the cæcal attachment as in Barnsby's case; but the rule is that only a portion is herniated—the greater portion it is true. The mobility of the cæcum probably has something to do with the occurrence of isolated appendicular hernia in some cases. This, however, appears not to be invariably the case. In four cases of this series it was impossible to drag the cæcum down to the hernial ring to reach the insertion of the appendix, and the latter had to be removed through an abdominal incision. In four other cases the appendix was incompletely removed through the hernial ring; the probable cause of the incomplete removal seems to have been the immobility of the cæcum. In the other case in which the appendix was removed this seems to have been readily effected through the hernial incision. In these cases, however, it is not always stated whether the whole appendix was removed or not and no note is made as to the mobility of the cæcum.

The appendix usually protrudes through the hernial ring in such a way that its apex is the most advanced point. This is not invariably so. In some cases it is distinctly bent and curved upon itself. In a few instances it is so curved that the proximal and distal extremities lie within the abdominal cavity. Such cases are recorded by Honsell, Guinard, and Rotter. The appendix in the majority of cases lies free in the hernial sac, being without any adhesions. The meso-appendix shares in the strangulation and it is often noted that the meso-appendix is very well developed, being very rich in fat. Such a thickly developed meso-appendix seems a probable factor in the etiology of the strangulation.

The rigid structures forming the boundary of the ring are responsible for the strangulation. In one case recorded by Rochard the strangulation was not at the crural arch but by a sort of diaphragm in the sac. This was a woman, 70 years of age, who for three or four days had had pain and swelling in the right groin; the bowels had not been opened for three days but flatus had been passed; there was nausea but no vomiting; the abdomen was a little swollen; it was supple and not tender. In the femoral region was a small, rounded, tender, and irreducible swelling. At the operation after opening the sac and cutting the crural arch the appendix was found to be strangulated about two centimetres above its inferior extremity, and the agent of strangulation was a sort of diaphragm in the sac, above which the appendix was completely healthy, whilst below it was black and necrotic, and between the two portions was a furrow impressed by this diaphragm.

Of the 53 collected cases only three occurred in the male subject. Of these three, two were children—one a baby five weeks old and my own case, a baby aged 22 months. Both were inguinal herniæ. The third case recorded by Rahn is also an example occurring in an inguinal sac. This was a man, aged 57 years, who for five years had had a reducible inguinal hernia. This came down one day and was associated with pain and vomiting; it was reduced by a surgeon. Eight days before operation the rupture again came down and could not be reduced. There was little collapse. The man vomited once on the fourth day of the illness, lost his appetite, and suffered from abdominal pain. The abdomen became somewhat distended. At the operation the sac contained blood-stained serous fluid, with the appendix strangulated at the internal abdominal ring; there were no adhesions. The appendix was removed after veins of one side of the face and neck with a prominent jugular on that side should always lead one to suspect the existence of enlarged bronchial glands.

In describing the tuberculous diathesis several writers have referred to the presence of visible veins; Landouzy,[4] describing the tuberculous predisposition, says: "Peau blanche, fine transparente marbrée de veinules, souvent tachetée de macules; système pileux soyeux, de coloration rousse ou rouge; iris bleu; chairs molles; sueurs faciles, parfois odorantes; formes plutôt graciles et élégantes." Eustace Smith[5] says: "Such children are tall for their age and slightly made, the skin is delicate and transparent-looking, allowing the superficial veins to be easily seen," &c. It is questionable whether thinness and transparency of the skin, a condition which has been accepted by medical writers, is sufficient to explain the condition in which these veins become visible. In wasting other than that due to tuberculosis it is not common to see superficial venules; it is possible to see, as I have seen, superficial venules in children with a moderately good layer of superficial fat; further, in view of the association in the cases quoted of dilated jugular veins along with visible venules on the chest, it is legitimate to assume that the two conditions may be due to the same cause. Only once (Case 12) has it been possible to observe the conditions under which the enlarged veins are produced and in this case only the left jugular vein was dilated. A dissection of the anterior mediastinum shows a ring of fleshy enlarged glands encircling the left innominate vein (Figs. 1 and 2) attached below to the thymus. Microscopic sections of one of the glands shows giant cell systems and a few tubercle bacilli. The primary focus of infection in this case has been a mass of caseous glands containing numerous bacilli in the posterior mediastinum. Stretching up from this focus along the lymphatics are several small fleshy glands of the same type as that encircling the vein. In assigning the cause of the condition in the other cases supposition must necessarily take the place of proof, but in view of the facts enumerated above, the history of tuberculosis, the condition of the hair, the presence of a retraction murmur, and the presence of small glands in the neck, the importance of which has been insisted on by Legroux[6] as an aid to the diagnosis of tuberculosis in children, it becomes highly probable that tuberculosis of the mediastinal glands is the cause.

FIG. 1.

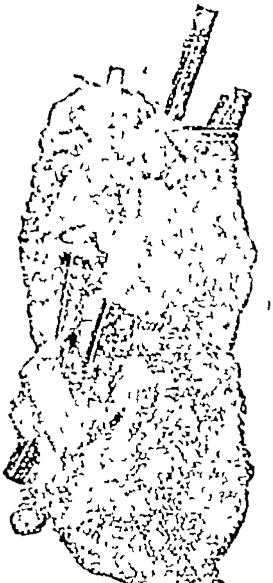

FIG. 2.

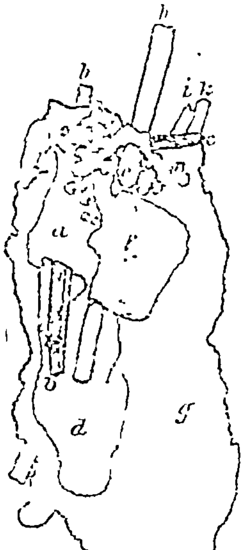

Fig. 2 is a tracing from Fig. 1. *a*, Superior vena cava. *b*, *c*, Glass rods in the right and left innominate veins respectively. *d*, Pericardium. *e*, Small, fleshy lymphatic glands compressing the left innominate vein. *f*, Thymus. *g*, Root of left lung. *h*, *i*, *k*, Glass rods in the innominate artery and the left carotid and subclavian arteries respectively.

From the pathological standpoint we have adequate proof that tuberculosis of the glands, especially those of the mediastinum, is extremely frequent in children who have died from diseases other than tuberculosis, and that where death has been due to tuberculosis an overwhelming percentage of cases show the glandular mediastinal affection in addition to that of other organs. It is sufficient in this connexion merely to mention the writings of Sims Woodhead,[7] Coleman,[8] Walter Carr,[9] Leonard Guthrie,[10] in this country, and O. Spengler[11] and Neumann[12] in Germany as a few examples of writers dealing with the subject from this point of view. Some of the French writers have recognised from the results of this work that most children attending the out-patient departments of our hospitals harbour tubercle bacilli somewhere in their bodies. As yet, however, we have had no means of detecting minute glandular lesions of the mediastinum so frequently the cause of a general infection, but it is suggested that the presence of visible veins on the chest, dilated jugular veins which do not collapse on inspiration, visible veins under the chin or on the temples, together with the other suggestive facts (enumerated above) in the history and state of the patient may lead to an increase in the number of these cases diagnosed during life. It is hardly necessary to mention how quickly these children improve under a liberal diet and ordinary attention to health and therefore what a valuable weapon for prophylaxis the knowledge of the presence of mediastinal tuberculosis may become.

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Oxford.

STRANGULATION OF THE APPENDIX VERMIFORMIS IN HERNIAL SACS.

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THE appendix as a content of a hernial sac is by no means infrequent. Many statistics have been compiled showing a percentage of cases in which the appendix is herniated. These, however, can hardly be quoted as an accurate interpretation of the relative frequency of the appendix in hernial sacs, since in many cases the latter is empty at the time of operation and the viscus which has occupied it must remain unknown. The combined statistics of Hoffmann, Colzi, Wassiljew, Coley, and Bundschuh are that in 3054 cases of inguinal and femoral hernia the appendix was present 53 times. In 250 cases of inguinal and femoral hernia of adults collected from the statistics of Charing Cross Hospital the appendix is mentioned as being a content of the sac in four only; in 100 consecutive cases of radical cure of inguinal hernia in children I have found the appendix present eight times. The total of these figures (which comprise cases at all ages and in both sexes) is that in 3404 cases of inguinal and femoral hernia the appendix has been present as a content of the sac in 65. These figures merely show the occasions on which the appendix has actually been seen and not the possible relative frequency of the organ in hernial sacs; they include cases in which the appendix only is herniated and in which other viscera are also present. The relative frequency of appendicular femoral and inguinal hernia is not far from equal. Statistics vary a little on this point but the larger number of cases collected show very little difference in these two forms of herniæ.

Two accidents may happen to the appendix when herniated. The more frequent of these is an inflammation be precisely similar, as also the local signs. The "dragging" sensation experienced in the right iliac fossa, increased by pressure over the hernia, has been present too rarely to consider it as a sign of diagnostic use. A strangulated portion of intestinal tract would in general give rise to a more early infection of the hernial coverings than would an incarcerated omentocele. This may be of some importance although a late sign, but many patients curiously enough do not seek advice for a strangulated appendicocele until they have suffered for two or three days. It may be definitely asserted that there are no practical signs by means of which it may be said that it is the appendix which is strangulated. The obvious conclusion is that all swellings in the groin which are reasonably suspected as hernial and are painful and irreducible should be explored without delay. Delay may not perhaps cost the patient her life but it may consign her to a long and tedious illness and deprive her of the chances of a cure of the hernia.

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[4] Landouzy: Prédispositions Tuberculeuses, Révue de Médecine, 1899, p. 422.

[5] Loc. cit.

[6] Legroux: La Micro-polyadénopathie considerée comme Indice de la Tuberculose Profonde chez les Enfants, Congrès pour l'Etude de la Tuberculose, 1888.

[7] Sims Woodhead: Tuberculosis and Tabes Mesenterica, THE LANCET, vol. ii., 1888, pp. 51 and 99.

[8] Coleman: The Distribution of Tubercle in Abdominal Tuberculosis, Brit. Med. Jour., 1893, vol. ii., p. 740.

[9] Walter Carr: The Starting point of Tuberculous Disease in Children, Transactions of the Medical Society, 1894, p. 288.

[10] Leonard Guthrie: The Distribution and Origin of Tuberculosis in Children, THE LANCET, Feb 4th, 1899, p. 286.

[11] O. Spengler: Zur Bronchialdrüsen Tuberkulose der Kinder, Zeitschrift für Hygiene, 1893, Band xiii., p. 347.

[12] Neumann: Ueber die Bronchialdrüsen Tuberkulose und ihre Beziehungen zur Tuberkulose im Kindesalter, Deutsche Medicinische Wochenschrift, 1893, Nos. 9, 10, 12, 13, 14, 15, 16, and 17.

PROGNOSIS AND TREATMENT.

The prognosis of this condition is perfectly satisfactory. Every case resulted in recovery as far as the strangulation of the appendix was concerned. The results are far superior to those of appendicitis occurring in hernial sacs. In 38 cases the duration of strangulation before operation is given. In only two cases was operation performed at the end of 12 hours; in 4 more at the end of 24 hours. In 9 cases two days elapsed, in 7 cases three days, in 4 cases four days, in 1 case five days, in 5 cases eight days, in 1 case nine days, in 1 case ten days, in 1 case 14 days, in 1 case 18 days, in 1 case one month, and in 1 case five weeks between the initial symptoms and the operation. In several cases the appendix has been reduced after exposure at the operation. Bayer records the case of a woman, 27 years of age, who for 18 days had an irreducible femoral hernia; this gradually enlarged. At the operation the sac contained some blood-stained fluid and the appendix; the latter was reduced and the wound was allowed to granulate. Davies-Colley reports the case of a woman who for 12 months had had recurrent attacks of pain and vomiting with descent of a small hernia, on the replacement of which the symptoms disappeared. She then developed another attack and the hernia became irreducible. Taxis was tried without success. Operation was performed on the third day; the appendix was little altered, except for some blood extravasation under its peritoneal coat; it was returned after notching the ring and the sac was closed. Jacobson in a woman 43 years of age returned a constricted appendix after notching Gimbernat's ligament and removed the hernial sac. Kasinowski in a woman, aged 35 years, who had suffered from symptoms for two days, found a small quantity of fluid in the sac and a very little altered appendix; the latter was reduced. Mueller in a woman, aged 75 years, reduced an appendix which had a distinctly bluish colour and had been strangulated for three days. Rose reports the case of a woman, aged 54 years, who had had a hernia for some time. She suddenly developed pain in the hernia and began to vomit; the following two days she vomited three or four times a day; the pains became colicky and violent, and stools and flatus ceased to pass. Operation was performed 55 hours after the beginning of the symptoms; the strangulated appendix was not removed; it was blackish-red in colour and the strangulated portion was probably twice the size of the other part. Sauvage describes the case of a woman who had a strangulated femoral hernia, the content of which was the appendix, which was reduced after dilating the hernial ring. Swasey records the case of a woman, 67 years of age, who had had a right femoral hernia for six years; the hernia was completely reduced; she had worn a truss. The hernia became painful and she suffered from abdominal pain and nausea. Operation was performed 36 hours later. The sac was exposed and clear fluid was seen within it; this was withdrawn through a hypodermic needle. The appendix was seen and felt within the sac and returned to the abdomen by manipulation without opening the sac. Tapie records the case of a woman, aged 67 years, who had had a right strangulated hernia 15 years before. She was then operated upon and some intestine was found in the sac; the intestine was reduced and the sac was closed. Six years later the hernia recurred; it was easily reducible and she wore a truss. For two years the truss had been abandoned and the hernia became irreducible and increased in size and then it suddenly became painful. She suffered also from colicky pain and vomiting. At the operation the sac was found to contain the appendix only; it was strangulated and greatly swollen; the constricting ring was liberated and the appendix was reduced. Vulliet reports a case of a woman, aged 54 years, who had had a hernia for four years. She had never worn a truss, as the hernia did not cause her any inconvenience and was easily reducible. A month previously, for the second time recently, violent abdominal pains were experienced. The hernia became irreducible and increased in size. She had some nausea and vomiting, and the bowels acted regularly. The swelling was aspirated and clear fluid withdrawn, after which the hernia was reduced. Three weeks later a relapse occurred and the same symptoms were repeated. The sac was opened under local anæsthesia and a large quantity of yellowish fluid escaped. The appendix, which was incarcerated, was reduced after dilating the hernial ring. The sac was resected. Witte in a woman, aged 87 years, reduced an incarcerated appendix and performed a radical operation for the hernia. Wood reports the case of a woman, aged 65 years, who had had a swelling in the right groin for a month. This was almost painless, gave an elastic sensation, was dull to percussion, and irreducible. At the operation the sac was found to contain a considerable quantity of slightly turbid straw-coloured fluid which was forcibly discharged. The appendix was the sole visceral content; it was slightly swollen and œdematous and was returned to the abdominal cavity, and a radical cure for the hernia was performed. Bidwell records the case of a woman, aged 50 years, who for seven years had had a reducible right femoral hernia. For 14 days this had become irreducible but without symptoms of strangulation. The hernia was tense and slightly tender. The sac contained clear fluid and about one and a half inches of apparently normal appendix. The latter was reduced and a radical cure for the hernia was performed. The same surgeon records a second case of a woman, aged 60 years, who had had a right femoral hernia for five weeks; this came down suddenly and was irreducible. About one inch of apparently normal appendix was found in the sac, together with some clear fluid. The appendix was reduced and a radical cure of hernia was performed. Court operated upon a woman, aged 50 years, for a strangulated hernia 24 hours after the commencement of symptoms. At the operation the appendix, which was the only content, was reduced. All these patients recovered apparently without any complications of importance. Satisfactory as these results are, it cannot be said to be the ideal treatment; yet a few of them are taken from recent literature. In a few cases the strangulated portion of the appendix only has been removed and the stump returned into the abdominal cavity. These cases have not come to any further harm apparently. The ideal treatment in a case of strangulation of the appendix is complete removal of the organ. This can be readily effected in the majority of cases through the hernial incision. If it be impossible to reach the cæcal end of the appendix by this route the abdomen should be opened and the appendix removed, taking the usual care to guard the peritoneum from infection which may occur by dragging the appendix across it.

The notes of my three cases are briefly the following:—

CASE 1.—The patient was a female, aged 42 years, who about a year ago collided with a small cart and said that she then strained herself. She experienced immediately pain in the right iliac fossa and the right groin. A few hours later she noticed that a small swelling had formed in the right groin. She consulted a medical man who advised a truss and this effectually kept the hernia back. The truss was only worn irregularly and the hernia would occasionally come down, but was always of small size and caused no inconvenience. The history of the present illness is as follows. The hernia suddenly came down associated with pain and could not be reduced by the patient; there was no vomiting. The swelling increased in size; the pain persisted and was also experienced in the lower abdomen, especially the right iliac fossa. The temperature was normal or subnormal; the pulse was from 80 to 100 per minute. The bowels were confined but opened once after an enema; flatus was passed. Taxis was unsuccessful. The abdomen became a little swollen. On admission on the fourth day of her illness the patient did not appear to be in great pain, although she was suffering from colicky pain in the lower abdomen. The temperature was 98·4° F. and the pulse was 92. The abdomen was slightly distended; there was no tenderness. In the right groin was a swelling without impulse and somewhat diffused on account of the œdema of the skin and dilating the ring and the wound allowed to granulate. Strangulation of the appendix in the male subject seems a great rarity.

Fifty cases occurred in women and in every case the appendix was strangulated in a femoral hernia. In every instance the hernia was on the right side. The age at which strangulation occurred is not given in five cases. In 45 cases in which it is mentioned the youngest was 21 and the oldest 87 years of age. The age incidence in decades is as follows:—

Between	20	and	30	years of age	2	cases.	
,,	30	,,	40	,, ...	6	,,	
,,	40	,,	50	,, ...	9	,,	
,,	50	,,	60	,, ...	13	,,	
,,	60	,,	70	,, ...	10	,,	
,,	70	,,	80	,, ...	3	,,	
,,	80	,,	90	,, ...	2	,,	(ages 80 and 87).

22 of these 50 patients were known to have had a hernia before strangulation occurred. The duration of the hernia is given as anything from between two months and 13 years—years, several years, and in Bandschuh's case, a woman, 53 years of age, the hernia had been known to exist since childhood. In 18 cases the existence of a hernia previously to the symptoms of strangulation was not known. In the remaining cases this fact is not mentioned. In the cases in which the hernia had been present before acute symptoms it was of small size. In many cases it is mentioned as being quite small and in others it is said not to have caused any inconvenience, and a small hernia is therefore inferred. In by far the majority of cases the hernia was easily reducible. This, however, is not always the case. In Levy's case the hernia had been gradually increasing in size for two months and was irreducible but was only painful for four days. In Swasey's case the hernia was never completely reducible; it had existed for six years and a truss had not been worn. In one of Koerte's cases an adherent omental hernia had existed for some time. In several cases the hernia had only been down on a few occasions. The best example of this is the case recorded by Waring, of a woman, 56 years of age, who had had a hernia 12 years before; this was easily reduced and did not occur till 11 years later, when it became irreducible and painful. It was then reduced with difficulty. The third time it occurred it became strangulated.

In a few cases the hernia had given trouble before the acute symptoms set in which called for operation. Rotter's case was a woman, 68 years of age, who had had an irreducible hernia of the size of a hazel-nut for four years; this was occasionally painful but acute symptoms had only occurred five days before operation. Ricou records the case of a woman, 52 years of age, who had had a femoral hernia for seven years; this was easily reducible. Some painful crises were experienced at times accompanied by vomiting. The hernia became irreducible but without symptoms of strangulation. Operation was advised but refused. Two months later symptoms of strangulation occurred. In one of Pollosson's cases, a woman, 32 years of age, strangulation had occurred once before but the hernia was reduced and a truss had been worn since. Later a recurrence of strangulation occurred demanding operation. Vulliet records the case of a woman, 54 years of age, who had had a hernia for 14 years. She had never worn a truss, since the hernia had never caused any inconvenience and was always easily reducible. One month previously, for the second time recently, she suffered violent abdominal pain; the hernia became irreducible and increased in size. The swelling was aspirated and some clear fluid withdrawn, after which the hernia was reduced. Three weeks later the same symptoms were repeated and an operation was necessary. Davies-Colley records the case of a woman, 32 years of age, who, 12 months previously, whilst lifting a heavy weight felt sudden pain in the right groin; this was followed by vomiting. The symptoms soon subsided but recurred from time to time. On the second occasion she noticed a swelling in the groin. She was always able to return the swelling and the pain never lasted more than an hour. Sometimes the hernia would not come down for two or three months. Later strangulation occurred and this was relieved by operation. In Waring's case the hernia had once previously become painful and was only reduced with difficulty.

The characteristics of these herniæ are that they are of small size, generally early reducible, and only present on occasions and not constantly, sometimes only having been observed once or twice previously to strangulation. They had not given rise to any inconvenience and hence a truss has rarely been worn. Occasionally they have been irreducible and in a few cases have given rise to symptoms of incarceration previously. The sac of a femoral hernia is regarded by most as acquired and presumably these sacs would be considered of acquired origin. In the cases in which a hernia has not been known to be present previously to strangulation it is difficult to conceive that the sacs are acquired. In such cases the appendix must be herniated into a preformed sac. If this preformed sac were acquired the presence of a hernia would probably be known. It seems most likely that the sacs are of congenital origin. The same inference is perfectly logical in the other cases also. If these sacs are acquired and produced by abdominal pressure and laxity of the tissues around the femoral ring, they should steadily increase in size and not remain quite small after some years, they should be more or less constantly occupied and not only at times, and the continued pressure should stretch the tissues bounding the femoral ring so as to allow of sufficient room for a small viscus like the appendix to pass with impunity. In order that the appendix may be strangulated it is necessary to have a sac into which it can slip and a small ring bounded by rigid tissue. This is exactly what one expects in a congenitally formed sac. Given this preformed sac with its neck surrounded by well-developed tendinous fibres and an appendix lying in close proximity, there is nothing mysterious when, on some sudden increase of intra-abdominal pressure, the appendix is forced through the femoral ring. A knowledge of the very small size of the normal ring will readily allow one to understand how even a small viscus like the appendix may become strangulated by it. This chance of strangulation is increased when the meso-appendix is thick and bulky, a fact which has been commented upon in several cases.

SYMPTOMS.

In all cases a detailed symptomatology is not given. The majority of cases are ushered in with acute local symptoms and in 38 cases some abdominal symptoms are also mentioned. In three cases abdominal symptoms preceded the local ones. The symptoms were abdominal pain, nausea, vomiting, and only later—a few hours to 24 hours—was the hernia discovered. In 19 cases vomiting occurred at the onset and was repeated several times; in three cases vomiting occurred at the onset of strangulation only. Nausea is frequently present in these cases unassociated with vomiting. In a few cases abdominal pain has been a feature. The pain is more or less diffused, or around the umbilicus, or in the lower abdomen; it is described as "dragging" or "colicky" in character. On two occasions "dragging" sensations were experienced in the right iliac fossa. The abdomen in a few cases has been distended and tender, but free from rigidity. Constipation is the rule and often the bowels have not acted throughout the illness of some three or four days' duration. Loose motions were passed in one case. In ten cases absolute obstruction to gas and fæces was present. The local signs are those of strangulated hernia. Collapse does not seem to have been a marked feature; it is only mentioned in four cases and two of these were in children.

Occasionally a strangulated appendix runs a more chronic course. Abdominal symptoms had been absent; real signs of strangulation had not been present. The hernia has suddenly become irreducible—perhaps on its first appearance; it increases in size, with or without pain. The appendix, thus loosely snared, has been operated upon, reduced or removed, at intervals of ten days, 14 days, 18 days, one month, and five weeks after the irreducibility.

The diagnosis of a strangulated appendix is not mentioned in any one case as being accurately made. In some cases it is definitely asserted that there were no signs present which allowed one to think that any portion of the intestinal tract was involved. Such cases were generally regarded as strangulation of a portion of omentum. In the acute cases with complete obstruction to gas and fæces (this is recorded in one-fifth of the cases) the symptoms are those of strangulation of any portion of bowel. The differential diagnosis is impossible. In other cases with incomplete obstruction the diagnosis has to be made from an incarcerated omental hernia, strangulation of a portion of the lumen of the bowel or a diverticulum, and possibly from a tubo-ovarian hernia torsioned or strangulated. All these occur in quite small herniæ, in herniæ which had been previously reducible, and these accidents may all occur on the first appearance of the hernia. The constitutional and abdominal symptoms may be precisely similar, as also the local signs. The "dragging" sensation experienced in the right iliac fossa, increased by pressure over the hernia, has been present too rarely to consider it as a sign of diagnostic use. A strangulated portion of intestinal tract would in general give rise to a more early infection of the hernial coverings than would an incarcerated omentocele. This may be of some importance although a late sign, but many patients curiously enough do not seek advice for a strangulated appendicocele until they have suffered for two or three days. It may be definitely asserted that there are no practical signs by means of which it may be said that it is the appendix which is strangulated. The obvious conclusion is that all swellings in the groin which are reasonably suspected as hernial and are painful and irreducible should be explored without delay. Delay may not perhaps cost the patient her life but it may consign her to a long and tedious illness and deprive her of the chances of a cure of the hernia.

PROGNOSIS AND TREATMENT.

The prognosis of this condition is perfectly satisfactory. Every case resulted in recovery as far as the strangulation of the appendix was concerned. The results are far superior to those of appendicitis occurring in hernial sacs. In 38 cases the duration of strangulation before operation is given. In only two cases was operation performed at the end of 12 hours; in 4 more at the end of 24 hours. In 9 cases two days elapsed, in 7 cases three days, in 4 cases four days, in 1 case five days, in 5 cases eight days, in 1 case nine days, in 1 case ten days, in 1 case 14 days, in 1 case 18 days, in 1 case one month, and in 1 case five weeks between the initial symptoms and the operation. In several cases the appendix has been reduced after exposure at the operation. Bayer records the case of a woman, 27 years of age, who for 16 days had an irreducible femoral hernia; this gradually enlarged. At the operation the sac contained some blood-stained fluid and the appendix; the latter was reduced and the wound was allowed to granulate. Davies Colley reports the case of a woman who for 12 months had had recurrent attacks of pain and vomiting with descent of a small hernia, on the replacement of which the symptoms disappeared. She then developed another attack and the hernia became irreducible. Taxis was tried without success. Operation was performed on the third day; the appendix was little altered, except for some blood extravasation under its peritoneal coat; it was returned after notching the ring and the sac was closed. Jacobson in a woman 43 years of age returned a constricted appendix after notching Gimbernat's ligament and removed the hernial sac. Kasinowski in a woman, aged 35 years, who had suffered from symptoms for two days, found a small quantity of fluid in the sac and a very little altered appendix; the latter was reduced. Mueller in a woman, aged 75 years, reduced an appendix which had a distinctly bluish colour and had been strangulated for three days. Rose reports the case of a woman, aged 54 years, who had had a hernia for some time. She suddenly developed pain in the hernia and began to vomit; the following two days she vomited three or four times a day; the pains became colicky and violent, and stools and flatus ceased to pass. Operation was performed 55 hours after the beginning of the symptoms; the strangulated appendix was not removed; it was blackish-red in colour and the strangulated portion was probably twice the size of the other part. Sauvage describes the case of a woman who had a strangulated femoral hernia, the content of which was the appendix, which was reduced after dilating the hernial ring. Swasey records the case of a woman, 67 years of age, who had had a right femoral hernia for six years; the hernia was completely reduced; she had worn a truss. The hernia became painful and she suffered from abdominal pain and nausea. Operation was performed 36 hours later. The sac was exposed and clear fluid was seen within it; this was withdrawn through a hypodermic needle. The appendix was seen and felt within the sac and returned to the abdomen by manipulation without opening the sac. Tapie records the case of a woman, aged 67 years, who had had a right strangulated hernia 15 years before. She was then operated upon and some intestine was found in the sac; the intestine was reduced and the sac was closed. Six years later the hernia recurred; it was easily reducible and she wore a truss. For two years the truss had been abandoned and the hernia became irreducible and increased in size and then it suddenly became painful. She suffered also from colicky pain and vomiting. At the operation the sac was found to contain the appendix only; it was strangulated and greatly swollen; the constricting ring was liberated and the appendix was reduced. Vulliet reports a case of a woman, aged 54 years, who had had a hernia for four years. She had never worn a truss, as the hernia did not cause her any inconvenience and was easily reducible. A month previously, for the second time recently, violent abdominal pains were experienced. The hernia became irreducible and increased in size. She had some nausea and vomiting, and the bowels acted regularly. The swelling was aspirated and clear fluid withdrawn, after which the hernia was reduced. Three weeks later a relapse occurred and the same symptoms were repeated. The sac was opened under local anæsthesia and a large quantity of yellowish fluid escaped. The appendix, which was incarcerated, was reduced after dilating the hernial ring. The sac was resected. Witte in a woman, aged 87 years, reduced an incarcerated appendix and performed a radical operation for the hernia. Wood reports the case of a woman, aged 65 years, who had had a swelling in the right groin for a month. This was almost painless, gave an elastic sensation, was dull to percussion, and irreducible. At the operation the sac was found to contain a considerable quantity of slightly turbid straw-coloured fluid which was forcibly discharged. The appendix was the sole visceral content; it was slightly swollen and œdematous and was returned to the abdominal cavity, and a radical cure for the hernia was performed. Bidwell records the case of a woman, aged 50 years, who for seven years had had a reducible right femoral hernia. For 14 days this had become irreducible but without symptoms of strangulation. The hernia was tense and slightly tender. The sac contained clear fluid and about one and a half inches of apparently normal appendix. The latter was reduced and a radical cure for the hernia was performed. The same surgeon records a second case of a woman, aged 60 years, who had had a right femoral hernia for five weeks; this came down suddenly and was irreducible. About one inch of apparently normal appendix was found in the sac, together with some clear fluid. The appendix was reduced and a radical cure of hernia was performed. Court operated upon a woman, aged 50 years, for a strangulated hernia 24 hours after the commencement of symptoms. At the operation the appendix, which was the only content, was reduced. All these patients recovered apparently without any complications of importance. Satisfactory as these results are, it cannot be said to be the ideal treatment; yet a few of them are taken from recent literature. In a few cases the strangulated portion of the appendix only has been removed and the stump returned into the abdominal cavity. These cases have not come to any further harm apparently. The ideal treatment in a case of strangulation of the appendix is complete removal of the organ. This can be readily effected in the majority of cases through the hernial incision. If it be impossible to reach the cæcal end of the appendix by this route the abdomen should be opened and the appendix removed, taking the usual care to guard the peritoneum from infection which may occur by dragging the appendix across it.

The notes of my three cases are briefly the following:—

CASE 1.—The patient was a female, aged 42 years, who about a year ago collided with a small cart and said that she then strained herself. She experienced immediately pain in the right iliac fossa and the right groin. A few hours later she noticed that a small swelling had formed in the right groin. She consulted a medical man who advised a truss and this effectually kept the hernia back. The truss was only worn irregularly and the hernia would occasionally come down, but was always of small size and caused no inconvenience. The history of the present illness is as follows. The hernia suddenly came down associated with pain and could not be reduced by the patient; there was no vomiting. The swelling increased in size; the pain persisted and was also experienced in the lower abdomen, especially the right iliac fossa. The temperature was normal or subnormal; the pulse was from 80 to 100 per minute. The bowels were confined but opened once after an enema; flatus was passed. Taxis was unsuccessful. The abdomen became a little swollen. On admission on the fourth day of her illness the patient did not appear to be in great pain, although she was suffering from colicky pain in the lower abdomen. The temperature was 98·4° F. and the pulse was 92. The abdomen was slightly distended; there was no tenderness. In the right groin was a swelling without impulse and somewhat diffused on account of the œdema of the skin and subcutaneous tissue. Strangulated femoral hernia probably containing omentum only was diagnosed.

Operation was performed on the fourth day of the illness. The tissues over the sac were œdematous; the sac contained some quantity of fluid, slightly turbid and having the odour associated with the bacillus coli. In the sac was the appendix, free from adhesions and of a deep bluish-black colour, and the meso-appendix of a similar colour, much swollen and very rich in fat. After dividing the tissues around the neck of the sac and dilating the ring it was impossible to draw the whole appendix down. An incision in the right iliac fossa was made, the muscles were split, the peritoneum was guarded, and the appendix was drawn through and removed. The appendix, three and a half inches long, was strangulated close to its origin. The cæcum was normally placed and had not a mesentery. The hernial sac was removed and the ring was closed. Both wounds were drained in part; healing took place in five weeks.

CASE 2.—The patient was a female, aged 45 years. Her previous history was as follows. For about two years she had had a small right femoral hernia which was easily reducible; this had not caused any inconvenience and she had never worn a truss. The hernia was only present occasionally. The history of the present illness was as follows. The hernia after some strain suddenly came down with pain; she vomited once or twice; the hernia could not be reduced; the pain increased and some was also felt in the lower abdomen. The bowels were not opened; flatus was passed. On admission, 36 hours after onset, the pain was not great but some was present in the hernia and some colic in the abdomen. The temperature was 98° F. and the pulse was 100. There had been no vomiting since the onset. In the right femoral region was a small swelling of the size of a walnut, without impulse, slightly tender and irreducible, of elastic feel. Strangulated hernia probably containing omentum only was diagnosed.

Operation was performed about 40 hours after the onset of symptoms. There was no œdema around the hernia; the sac contained about two ounces of clear fluid and the appendix was quite free from adhesions; the appendix, one and a half inches long, was deeply congested, as was also the mesentery which was very well developed. After just notching the ligaments the appendix was drawn down with its cæcal insertion and was removed; it showed a distinct furrow impressed upon it by the tissues of the femoral ring. The sac was removed and the ring closed. Some superficial suppuration occurred; otherwise an uneventful recovery ensued. About four-fifths of the appendix was strangulated.

CASE 3.—The patient was a male baby, aged 22 months. The child was not noticed to have been ruptured before; he was seized with sudden pain and a swelling was noticed in the right inguinal region; he had not vomited. On admission 12 hours later the child was somewhat collapsed. The temperature was 98° F. and the pulse was 120. The bowels had not been opened. In the right inguinal region was a rounded elastic swelling just reaching to the scrotum; it was tender, irreducible, and without impulse. A strangulated inguinal hernia was diagnosed without thought of the contents.

At the operation the sac, which was of the partial funicular type, was opened and a small quantity of fluid escaped. The appendix, about one inch long, was the sole content; it was swollen and congested; by a little traction it was easily drawn down with a portion of the cæcum. The appendix was removed and the hernia was cured by removing the sac and closing the canal. The wound healed by first intention.

Harley-street, W.

A NURSING CONFERENCE.—It is proposed to hold in the St George's Hall, Hanover-square, London, W., on Nov. 22nd, 23rd, and 24th a nursing conference illustrated by exhibits on the subjects of tuberculosis and maternity and mental nursing. On the evening of each of those days papers will be read and discussions held. On the evening of Nov. 23rd, when the subject will be Maternity Nursing, Dr. F. H. Champneys, chairman of the Central Midwives Board, has consented to take the chair; and on the evening of Nov. 24th, when the subject will be Mental Nursing, Dr. R. Jones, President of the Medico-Psychological Association, will be in the chair The chairman is not yet fixed for Nov. 22nd when the subject will be Tuberculosis. The conference is organised by "The Provisional Committee of the National Council of Nurses."

THE DETECTION OF SUGAR IN URINE AND ITS SIGNIFICANCE IN CONNEXION WITH LIFE ASSURANCE.

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THE true significance of the presence of small quantities of sugar in urine is one which has been repeatedly debated without definite conclusions being finally accepted by physicians and physiologists. The problem is intimately bound up with the question as to whether traces of sugar can be present in normal urine. Much controversy has taken place with regard to this latter question since Brücke[1] stated definitely that all normal urine contained sugar. Brücke's statement has been supported among others by Bence Jones,[2] Tuchen,[3] Abeles,[4] Meissner and Babo,[5] Udranszky,[6] Wedenski,[7] Molisch[8] (whose evidence is doubtful because other substances which may be present in urine give similar reactions with the reagents—alpha-naphthol and thymol—used by him), Luther,[9] Roos[10]; and more especially Allen,[11] Baisch,[12] and Pavy[13] have offered strong confirmatory evidence, with which Halliburton[14] agrees. There have been many observers, however, who have either stated that no sugar is present, or have questioned its presence in normal urine, among whom Friedländer,[15] Maly,[16] Seegen,[17] Leuken,[18] Kulz,[19] Sir G. Johnson,[20] and G. Stillingfleet Johnson[21] may be mentioned.

As a result of a careful review of the whole field of argument we have been led to the conclusion that a small quantity of grape sugar—or a body giving identical reactions—is probably an almost constant constituent of normal urine. We think that the balance of evidence indicates that such small quantity can readily be demonstrated to be present by the action of phenylhydrazine or of alkaline safranin solution on urine. It is not impossible also that traces of glycuronic acid may be met with in certain cases.

Our reasons for arriving at the above conclusions among others are detailed in the following paper. We were led to consider the matter from the point of view of life insurance, with special reference to the manner in which Fehling's test should be carried out and the quantity of sugar which should be considered pathological, but we found that before definite conclusions could be reached the whole problem must be considered. We take it for granted that in medical examinations in connexion with life insurance it must be accepted as an axiom that the usual chemical tests should be applied to the urine in every instance.

The results of our experiments and the deductions from them may conveniently be summarised in the following order: I. The copper test as applied by Fehling. II.

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[1] Wiener Akademische Sitzungsberichte, vol. xxix., p. 346.
[2] Quarterly Journal of the Chemical Society, vol. xiv., p. 22.
[3] Virchow's Archiv, vol. xxvii., p. 28.
[4] Centralblatt für die Medicinischen Wissenschaften, 1879, Nos. 3, 12, and 22.
[5] Zeitschrift für Rationelle Medicin (3), vol. ii.
[6] Zeitschrift für Physiologische Chemie, vol. ii., p. 537; vol. xii., p. 33.
[7] Ibid., vol. xiii., p. 122.
[8] Monatsschrift der Chemie, vol. vii., pp. 198-209.
[9] Chemisches Centralblatt, 1891, vol. ii., p. 90.
[10] Zeitschrift für Physiologische Chemie, vol. xv., p. 513.
[11] THE LANCET, July 28th, 1894, p. 212; Chemistry of Urine, pp. 42-90.
[12] Zeitschrift für Physiologische Chemie, vol. xix., pp. 339-63; vol. xx., pp. 249-62.
[13] Guy's Hospital Reports, vol. xxi., p. 413; Physiology of the Carbohydrates, 1894; Carbohydrate Metabolism and Diabetes, 1906.
[14] Chemical Physiology and Pathology, THE LANCET, Feb. 9th, 1895, p. 372.
[15] Archiv der Heilkunde, vol. vi., p. 97.
[16] Wiener Akademische Sitzungsberichte, vol. lxiii., p. 2.
[17] Ibid., vol. lxiv., p. 2; Centralblatt für die Medicinischen Wissenschaften, 1886, p. 44.
[18] Apoth. Zeit., vol. i., p. 246.
[19] Pflüger's Archiv, vol. xiii., p. 269.
[20] THE LANCET, July 7th, 1894, p. 10 et seq., and Jan. 12th, 1895, p. 57 et seq.; Transactions of the Pharmaceutical Journal, 1895 (3), 25, pp. 603-05.
[21] Proceedings of the Royal Society, vol. xliii., p. 493 Transactions of the Royal Medical and Chirurgical Society, vol. lxxvi.

Pavy's modification of the copper test. III. The safranin test. IV. The phenylhydrazine test. V. The fermentation test. VI. The alkaline picrate test. VII. Methylene blue and other tests. VIII. The presence of sugar in normal urine, the possible occurrence of glycuronic acid, pentose, lactose, &c., being taken into consideration. IX. Conclusions.

I.—FEHLING'S TEST.

It has long been taken into consideration by chemists that to test for sugar in urine by Fehling's solution may lead to doubtful or incorrect deductions. If the solution turns green or yellow with formation of a small green or yellowish precipitate on standing it has until recently been generally held that the common reducing substances present in normal urine—namely, creatinine, creatine, mucin, uric acid, and urates—might under certain conditions be quite sufficient to explain the phenomena observed. This is true only of the uric acid and urates. Creatinine, creatine, and mucin do not cause precipitates to form, but rather retard their formation. Even if a considerable precipitate comes down it has been recognised that bodies like glycuronic acid may be the reducing substances, as in exceptional circumstances they may be present in quantity in normal urine as noted by Ashdown.[22]

As many life assurance examiners proceed by quite different methods in the use of Fehling's test, some adding only a few drops of urine to hot Fehling's solution, others adding an equal quantity, and others again diluting the Fehling's solution, it occurred to us that a complete study of the test might lead to definite conclusions being formulated as to the exact method in which the test should be carried out and also as regards the significance to be placed upon the phenomena observed. Our experiments may conveniently be summarised in the following order. 1. Experiments made to find out the most suitable proportions of Fehling's solution and urine which should be used. 2. Experiments to determine the minimum quantity of added sugar which could be readily detected in normal urine, dilute and concentrated. 3. Experiments carried out to determine the effect on Fehling's solution of different quantities of grape sugar in pure water and in urine at different temperatures. 4. Determination of the effect of altering the strength of Fehling's solution. 5. Experiments to determine the disturbing effect of (*a*) creatinine, (*b*) creatine, (*c*) urates, (*d*) mucin, and other substances which might be present in normal urine.

1. *The determination of the most suitable relative proportions of Fehling's solution and of urine.*—Two test experiments were carried out with normal urine, which gave a negative reaction with Fehling's solution before the addition of sugar.

Test Experiment No. 1.—Urine of specific gravity 1020 (water, 1000). Safranin reaction indicated the presence of 0·1 per cent. of a substance or substances reacting identically with sugar after testing as explained below in considering the safranin test and 0·25 per cent. of grape sugar was added. The total quantity of grape sugar present was therefore estimated as (approximately) 0·35 per cent. The method of procedure consisted in bringing just to the boiling point the Fehling's solution and the urine in separate test-tubes and then mixing and this method was followed in succeeding experiments summarised in Tables I. to XIII., after which addition of reagent and boiling for a few seconds was employed. This was found to be more convenient and similar in results.

TABLE I.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result.
2	0·5	No precipitate in one hour. Very faint red precipitate in ten hours.
2	1·0	A greenish precipitate in 55 seconds.*
2	1·0	A greenish precipitate in 55 seconds.*
2	1·5	A green precipitate in 30 seconds. Solution orange.
2	2·0	A green precipitate in 20 seconds.
2	2·5	The mixture turned green in 20 seconds and then rapidly orange. Slow precipitation.
2	3·0	Turned orange in 12 seconds. Faintly opalescent and slight white precipitate.
2	3·5	In 12 seconds the solution turned orange colour and faint. White precipitate formed.
2	4·0	In 12 seconds the solution turned orange colour and faint precipitate formed which in three minutes turned brownish and then brownish-black.
2	5·0	In ten seconds the solution turned to a deep orange colour and a faint flocculent precipitate formed; in one minute the solution turned brownish and in five minutes black.
2	10·0	Ditto.

* Duplicate experiment.

It might be argued that the above results would not be sufficient to indicate the presence of sugar in any of the tests but from experience we can say that the green precipitates formed within a minute when 1·5 and 2·0 cubic centimetres respectively of urine were used are generally conclusive as regards the presence of grape sugar or of bodies like glycuronic acid. The latter bodies may be taken as being out of the question in the above case. Large quantities of urates might give a similar reaction but not so readily.

Test experiment No. 2.—Urine of specific gravity 1012. Safranin reaction indicated the presence of 0·05 per cent. of sugar and 0·25 per cent. of grape sugar was added. The total quantity of grape sugar present was therefore 0·3 per cent. approximately.

TABLE II.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result.
2	0·5	A very faint reddish precipitate formed in six minutes.
2	1·0	In 40 seconds a green precipitate formed which rapidly turned yellow.
2	1·5	In 30 seconds a green precipitate formed which rapidly turned yellow.
2	2·0	In 15 seconds a thick yellow precipitate formed.
2	2·5	In 10 seconds a thick yellow precipitate formed.
2	3·0	Ditto.
2	3·5	In 14 seconds the mixture turned yellowish and then the precipitate slowly separated.
2	4·0	In 17 seconds an orange precipitate formed slowly.
2	5·0	In 13 seconds the liquid turned orange and faint, flocculent whitish precipitates formed, obviously not cuprous oxide.
2	10·0	In 18 seconds the solution turned orange and then slowly a brownish-black precipitate formed.

As the relative quantity of urine used in the test had evidently an important influence, probably because of the cumulative action of the inhibiting substances present, an attempt was made to test the effect of concentration of the urine. A portion of the above sample (specific gravity 1012) was evaporated to half its bulk without the addition of sugar, so that its specific gravity became 1024 and the quantity of sugar present would become 0·1 per cent. A quantity of sugar equivalent to 0·25 per cent. was added, so that the total quantity present was 0·35 per cent.

TABLE III.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result.
2	1·0	In one minute and 40 seconds a greenish precipitate began to form.
2	2·0	In 50 seconds a greenish precipitate slowly formed.*
2	2·0	In 55 seconds a greenish precipitate slowly formed.*
2	5·0	In 15 seconds the solution turned slowly reddish brown in colour and then a faint precipitate formed.

* Duplicate experiment.

The effect of concentration when approximately the same proportions of sugar are present will be seen to be obviously considerable. The yellowish precipitate formed in 15 seconds in the case of urine, specific gravity 1012, containing 0·3 per cent. of sugar (Table II.), has been altered to a greenish precipitate formed in from 50 to 55 seconds, when the specific gravity has been changed to 1024 and the percentage of sugar increased to 0·35 per cent.

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[22] Brit. Med. Jour., vol. i., 1890, p. 169.

From the foregoing experiments and also from others there seems to be no doubt that equal quantities of Fehling's solution and urine usually give satisfactory results. A smaller quantity of urine is distinctly disadvantageous, and although there would with samples of specific gravity under 1020 be no objection to using a little more urine than Fehling's solution a large quantity should be avoided as the solution merely turns yellow and no precipitate of reduced copper comes down for some time. The change of colour in this latter case is due primarily to the presence of kreatinin as indicated hereafter. On the other hand, a relatively small quantity of urine as compared with Fehling's solution used is correspondingly slow in giving any reaction worth consideration and we may therefore conclude that for all practical purposes equal quantities of urine and Fehling's solution are the most convenient for general use if the specific gravity be not greater than 1020. If the concentration is greater it is advisable to increase the quantity of Fehling's solution relative to urine as indicated below or to dilute the urine until its specific gravity becomes from 1012 to 1015.

In connexion with the above experiments one carried out with glycuronic acid dissolved in urine is worth giving in detail. From the remarkable case recorded by Ashdown[23] it seems probable that glycuronic acid, although it gives a similar reaction with Fehling's solution to glucose, has not the pathological significance of that substance, but may, although rarely, be present in urine in quantity. In connexion with life assurance tests the occurrence of glycuronic acid is particularly confusing, and we have carried out a number of comparative reactions with glycuronic acid and grape sugar to see whether some difference could not be found in the methods and conditions of precipitation required. Our results have been unsatisfactory, except in so far as we have confirmed to a certain extent the results of Hirschl[24] as regards the difference in the osazones obtainable from the two substances as mentioned later and the fact that glycuronic acid does not ferment with yeast. The glycuronic acid used for our experiments was prepared from the pigment Indian yellow by the process recommended by Allen.[25] A quantity of glycuronic anhydride corresponding to approximately 0·2 per cent. of glycuronic acid was dissolved in the urine of specific gravity 1025, used in Experiment 1. As this urine contained 0·1 per cent. of grape sugar according to the safranin test, one might say that if glucose and glycuronic acid were exactly equivalent to each other the urine contained 0·3 per cent. of a mixture equivalent to grape sugar. The results obtained were as follows:—

TABLE IV.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result.
2·0	0·5	A very faint precipitate in 30 minutes.
2·0	1·0	A greenish precipitate in six minutes.
2·0	1·5	A greenish precipitate in one and one-third minutes.
2·0	2·0	A green precipitate in one minute.
2·0	2·5	A green precipitate in 30 seconds.
2·0	3·0	In 40 seconds the solution turned orange.
2·0	4·0	In 15 seconds the precipitate turned orange (faint flocculent precipitate).
2·0	5·0	Ditto.
2·0	10·0	Ditto (black after some time).

From the above results it may be concluded that the effects of glycuronic acid and glucose in urine on Fehling's solution are similar.

2. *Experiments to determine the minimum quantity of added sugar which could be readily detected in normal urine, dilute and concentrated.*—As preliminary investigation indicated that the difficulty of detecting traces of sugar increased with concentration a few experiments were carried out with concentrated urine to which known quantities of sugar were added.

Series 1.—Urine of specific gravity 1045, obtained by evaporation of a specimen of specific gravity 1015 in which originally 0·1 per cent. of added sugar could be readily detected.

A. 1 per cent. of sugar was added and the safranin test indicated previously the presence of 0·2 per cent.; so that the total quantity present was 1·2 per cent.

As a preliminary experiment in which equal quantities of Fehling's solution and urine were used merely gave an orange solution which on standing gave a nearly black precipitate the quantities of Fehling's solution and urine were modified, with the following results:—

TABLE V.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result after heating the mixture to boiling point and allowing it to cool.
2	2	The solution turned orange in a few seconds, a faint precipitate slowly turning nearly black.
2	1	A thick orange precipitate formed in a few seconds.
3	1	A deep orange precipitate rapidly formed.
4	1	Ditto.

There is obviously no difficulty in detecting 1 per cent. of added sugar in concentrated urine provided that more Fehling's solution is used than urine. In this case three volumes of Fehling's solution to one volume of urine seemed to give the most satisfactory precipitate which would correspond with equal volumes of Fehling's solution and the urine before concentration (specific gravity 1015).

B. The quantity of sugar added was 0·5 per cent. and this with the 0·2 per cent. indicated by safranin would give a total of 0·7 per cent. sugar.

TABLE V. A.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result on heating the mixture to boiling point.
2	4	The solution turned a deep orange, opalescent, and a black precipitate gradually formed.
2	2	An orange solution and faint precipitate.*
2	1	A yellow precipitate.
3	1	A green precipitate turning yellow.

* This source of error has been investigated and explained by Eury,[26] who shows that the reaction depends upon soluble compounds of cuprous oxide with creatinine and allied substances being formed. Giacom[27] stated this in 1884.

C. The quantity of sugar added was 0·25 per cent., which with the quantity originally present as indicated by safranin would make a total of 0·45 per cent.

TABLE V. B.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result after boiling the mixture.
2	4	The solution turned a deep orange in a few seconds and then slowly black.
2	2	A yellowish precipitate formed slowly.
2	1	A greenish precipitate in 50 seconds, which became yellow on standing.
3	1	A bluish precipitate in one and a half minutes; became yellowish on standing.

D. The quantity of added sugar was 0·1 per cent., which with the quantity originally present gives a total of 0·3 per cent.

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[23] Loc. cit.

[24] Zeitschrift für Physiologische Chemie, vol. xiv., p. 377.

[25] Chemistry of Urine

[26] Bulletin de Société Chimique, 1900, vol. iii., 23, 41–44.

[27] Chemisches Centralblatt, 1884, 185.

TABLE V. C.

Fehling's solution in cubic centimetres.	Urine in cubic centimetres.	Result after boiling.
2	4	An orange solution and precipitate on standing over night.
2	2	A faint flocculent white precipitate and on standing a green precipitate.'
3	1	No precipitate at first, but an orange precipitate on standing.

Several other experiments in which 0·1 per cent. of sugar was added to concentrated urine (1035 to 1045 specific gravity), which had contained from 0·1 to 0·2 per cent. of sugar originally, showed that a green precipitate was almost invariably obtained in from two to four minutes if two cubic centimetres of urine and from 3·5 to 4 cubic centimetres of Fehling's solution were used. It is worth noting that in some cases where 0·1 per cent. of sugar was present originally, after concentration so that the quantity became approximately 0·2 per cent. and then boiling approximately an equal volume with Fehling's solution a slight greenish precipitate might be thrown down, especially on standing. This might be due partly at least to the urates present.

Taking into account the results of the above experiments we have come to the conclusion that while equal volumes of Fehling's solution and urine give satisfactory results if the urine has a specific gravity under 1020, and may be regarded as standard quantities, it is advisable to increase the quantity of Fehling's solution used by approximately 25 per cent. of its standard volume for each rise of specific gravity of five parts in 1000. The most convenient relative quantities of Fehling's solution and urine for concentrated specimens would be as follows (Table VI.).

TABLE VI.

Specific gravity of urine.	Urine in cubic centimetres.	Fehling's solution in cubic centimetres.
Up to 1020	2	2·0
1020 to 1025	2	2·5
1025 to 1030	2	3·0
1030 to 1035	2	3·5
1035 to 1040	2	4·0
1040 to 1045	2	4·5

An equally efficacious plan is to dilute the urine until its specific gravity is approximately from 1012 to 1015.

3. *Experiments carried out to determine the effect on Fehling's solution of different quantities of grape sugar in pure water and in urine at different temperatures.*—It was thought that perhaps the inhibiting substances present in urine might not have a serious effect if the urine and Fehling's solution were just brought to the boiling point and then mixed, or were at a lower temperature, say from 80° C. to 90° C. The range of temperature through which any kind of precipitate formed seemed also worth while determining. Corresponding experiments were carried out with pure glucose dissolved in distilled water and with a sample of normal urine containing approximately the same quantity of sugar. The method of carrying out these experiments was as follows. Four cubic centimetres of Fehling's solution were measured into a specially constructed tube of about a half-inch bore, provided with a ground-glass stopper at the bottom, which was connected with a rod passing up the centre of the tube. This rod served as a handle. The bulb of a delicate thermometer was then placed in the Fehling's solution, which was supported in a beaker of water by a circlet of copper wire provided with hooks attached to the top of the tube. (See Diagram.) Four cubic centimetres of sugar solution, or of urine containing sugar, were placed in a wide test tube closed by cottonwool, supported in the same beaker. The water was heated until the thermometers were approximately 1° C. above the temperature required. The flame being then slightly lowered, the solutions were allowed to cool to the proper temperature and maintained at that temperature for a few minutes. The tube containing Fehling's solution was then rapidly placed inside the wider tube and by pulling up the plug stopper the two liquids could be mixed at the exact temperature required. The following diagram shows the apparatus in position ready for mixing.

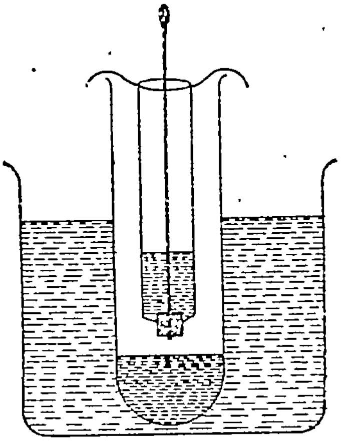

TABLE VII.—*Results with 1 per cent. Sugar Solutions.*

Temperature (Centigrade).	1 per cent. solution of grape sugar in water.	Urine (specific gravity 1019) containing 1 per cent. of added sugar. This with the 0·1 per cent. indicated by safranin would give a total of 1·1 per cent.
Boiled and mixed (93–94°).	Instantaneous red precipitate.	Complete precipitation in from three to four seconds. Red precipitate. Orange solution.
95°	Ditto.	—
90°	Ditto.	Precipitation complete in ten seconds. Orange solution.
85°	Precipitation complete in from three to four seconds.	—
80°	Precipitation complete in six seconds. Brown, but turned bright red in 20 seconds.	In 18 seconds a greenish precipitate which in 45 seconds had changed to deep orange.
75°	Precipitation started immediately. Complete in 11 seconds; turned deep red in 30 seconds.	In 31 seconds a greenish precipitate formed which in one minute changed to deep orange.
70°	Precipitation started in seven seconds. Brownish-red precipitate slowly separated, turning bright red in a few minutes.	In 50 seconds a greenish precipitate formed which turned slowly brown.
65°	Began to precipitate in ten seconds; deep red in five minutes. *So far complete discharge of the blue colour of Fehling's solution.*	In one minute and 35 seconds a greenish precipitate formed which slowly turned brown.
60°	Precipitation started in 21 seconds; in five minutes chocolate brown; in ten minutes red. Slight blue tint remained in solution.	In three and one-third minutes a greenish precipitate separated.
55°	In 35 seconds a brownish precipitate formed.	In five and a quarter minutes a greenish precipitate.
50°	In one minute a faint brownish tint; in five minutes very faint; in ten minutes a red film over the bottom.	No precipitate in 20 minutes beyond a faint gelatinous one (cuprous urate?).
45°	In two minutes a faint precipitate; in 15 minutes a distinct red precipitate at the bottom.	—
30°	No precipitate in 20 minutes; a faint trace in 30 minutes.	A faint whitish gelatinous precipitate in 15 minutes (might be cuprous urate).
12°	Within ten hours a faint red precipitate.	A faint gelatinous precipitate formed slowly.

TABLE VIII.—*Results with 0·5 per cent. Sugar Solutions.*

Temperature (Centigrade).	Solution of grape sugar in water 0·5 per cent.	Urine (specific gravity 1019) containing 0·5 per cent. of added sugar. Safranin test indicates 0·1 per cent. to be originally present, therefore total percentage is 0·6 per cent.
Boiled and mixed (93–94°).	Precipitation complete in from three to four seconds; red.	Precipitation started in six seconds. Yellow precipitate. Solution orange.
90°	Precipitation complete in four seconds.	In ten seconds a yellowish precipitate. Solution orange.
80°	In from five to six seconds a dark brown precipitate began to form. In one minute deep red. Solution faint blue.	In 37 seconds a greenish precipitate formed; turned yellow. Solution orange.
75°	—	In one and a quarter minutes a green precipitate formed which changed to yellow.
70°	In 14 seconds a grey precipitate formed which changed first to dark brown and then to red.	In one minute and 35 seconds a greenish precipitate formed.
65°	In 20 seconds a faint grey precipitate began to form; ultimately red.	In three minutes a greenish precipitate began to form.
60°	In 31 seconds a faint grey precipitate began to form; ultimately red.	In nine and a half minutes a faint greenish precipitate formed.
55°	In 55 seconds a faint precipitate formed.	In 22½ minutes a greenish precipitate began to form.
50°	Precipitation started in one minute but was still faint in five minutes.	—
45°	A very faint precipitate was visible in ten minutes; distinct precipitate in 15 minutes.	—
30°	No visible precipitate in 15 minutes but distinct precipitate in 20 minutes.	—
12°	Within two hours a distinct but faint red film.	A faint bluish precipitate in one and a half hours.

TABLE IX.—*Results with 0·25 per cent. Sugar Solutions.*

Temperature (Centigrade).	Solution of grape sugar in water, 0·25 per cent.	Urine containing 0·25 per cent. of added sugar + 0·1 per cent. originally present. Total, 0·35 per cent.
Boiled and mixed.	A reddish precipitate in five seconds.	In 20 seconds a greenish precipitate, changing to yellow.
90°	A greyish precipitate in five seconds; then a brownish red.	In 25 seconds a greenish precipitate, changing to yellow.
80°	In nine seconds a greyish precipitate formed; slowly turned reddish.	In one minute and 35 seconds a greenish precipitate.
75°	In 12 seconds a greyish precipitate formed; slowly turned reddish.	In one minute and 45 seconds a greenish precipitate.
70°	A faint precipitate formed in 20 seconds, slowly turning reddish.	In six minutes a faint precipitate.
65°	In 28 seconds a faint precipitate.	No precipitate in 40 minutes. A faint greenish precipitate in 45 minutes.
60°	In one minute a faint greyish precipitate.	No precipitate in one hour.
55°	In one and a half minutes a faint greyish precipitate.	—
50°	In three minutes a faint greyish precipitate.	An opalescent precipitate in nine minutes, which cleared on warming.
45°	In 15 minutes a faint trace of a red precipitate; in 20 minutes distinct.	—
30°	A faint precipitate within ten hours.	—
12°	No precipitate in one hour; a faint precipitate within ten hours.	—

TABLE X.—*Results with 0·1 per cent. Sugar Solutions.*

Temperature (Centigrade).	Solution of grape sugar in water 0·1 per cent.	Urine containing 0·1 per cent. of added sugar + 0·1 per cent. originally present. Total, 0·2 per cent.
Boiled and mixed (92–93°).	In three seconds turned grey and then a reddish-brown precipitate formed.	In one and one-third minutes a bluish green precipitate; in two minutes a thick precipitate.*
90°	In nine seconds a greyish precipitate; turned brown and then red.	In one and one-third minutes a bluish green precipitate; in two minutes a thick precipitate.
80°	In 15 seconds a greyish precipitate; turned brown and then red.	The solution slowly turned green and in eight minutes a faint greenish-blue precipitate began to form.
75°	In 20 seconds, ditto	—
70°	In 40 seconds, ditto.	No precipitate in 20 minutes.
65°	In 70 seconds, ditto.	—
60°	In two minutes faint turbidity.	—
55°	In 15 minutes a very faint precipitate.	—
50°	A faint precipitate in 20 minutes; distinct in 30 minutes.	—
45°	A very faint film in 30 minutes.	—
30°	No precipitate in three and a half hours. A faint red film within 12 hours.	—
12°	No precipitate in four hours. Few red specks in 12 hours.	—

* *Note.*—The above results are typical. 0·1 per cent. of added sugar gave a greenish precipitate readily in under two minutes as a rule.

An examination of the above series of comparative tables shows that temperature has an important effect on the rate of precipitation and upon the colour and quantity of the substances precipitated. In aqueous solution quantities of sugar much under 0·1 per cent. could readily be detected, but in urine, as the above results show, substances are

TABLE XI.

Temperature (Centigrade.)	1 per cent. grape sugar solution in distilled water and an equal volume of Fehling's solution.	1 per cent. of grape sugar added to urine of specific gravity 1022, in which safranin test indicated 0·1 per cent. of sugar. Total quantity of sugar 1·1 per cent.
100°	In two seconds precipitation was complete; brick-red at first, brown on standing. Solution yellow.	In a few seconds the solution turned a deep orange and a faint white precipitate separated.
90°	Ditto.	Ditto.
80°	In two seconds a nearly white precipitate; deep red in ten seconds; finally orange.	In 20 seconds a greyish precipitate seemed to form, but this quickly vanished, the solution becoming orange.
70°	A whitish precipitate in four seconds, which changed to orange red on standing.	The solution gave a faint white precipitate at once and in one minute it changed to orange.
65°	Whitish precipitate in seven seconds, which changed gradually to red.	
60°	In 12 seconds ditto.	
55°	In 20 seconds a faint white precipitate; in four minutes an orange-red.	(*Note.* — On boiling two cubic centimetres of the above urine with two cubic centimetres of Fehling's solution for a few minutes a deep brownish precipitate formed. This precipitate dissolved in distilled water after filtration, except a faint pink residue.)
50°	In 27 seconds a faint white precipitate which changed to red; a faint blue tint remained in solution.	
45°	In 50 seconds a yellowish precipitate came down slowly; slowly changed to red.	
30°	A faint opalescence in five minutes. In one and a half hours a faint red precipitate.	
12°	In one hour a very faint whitish precipitate.	

present which hinder precipitation and alter the nature of the substances precipitated, so that, for example, 0·1 per cent. of added sugar causes a green precipitate to be formed instead of a red one. This green precipitate may slowly turn yellow on standing for a day or more.

4. *Experiments carried out to determine whether an alteration of strength of Fehling's solution might not be advisable under certain conditions.*—Inasmuch as certain life insurance companies recommend that Fehling's solution should be diluted to half before use these experiments were more especially desirable.

(1) Comparison experiment with half-strength Fehling's solution.

The indications in Table XI. are very unsatisfactory so far as the detection of sugar in urine is concerned. This was to be expected from the conclusions arrived at from the preceding set of experiments, which indicated clearly that with a urine of high specific gravity the strength of the Fehling's solution should be increased rather than diminished. On boiling four cubic centimetres of Fehling's solution with one cubic centimetre of the above urine containing 1 per cent. of added sugar a thick yellowish precipitate formed immediately.

An attempt was made to find out whether any disturbing effect could be perceived in the above case in using the safranin test. An indication of the presence of 1·1 per cent. of sugar could, however, readily be confirmed by operating as described below.

(2) A few experiments were carried out with one-quarter strength Fehling's solution.

TABLE XII.

Temperature (Centigrade).	1 per cent. grape sugar solution and an equal volume of quarter strength Fehling's solution.	1 per cent. grape sugar added to urine (specific gravity 1022) containing 0·1 per cent. sugar as indicated by safranin test. Total quantity of sugar 1·1 per cent.
100°	A red precipitate formed at once.	The mixture turned yellow in a few seconds. A faint white precipitate.
90°	Ditto.	Ditto.
80°	A red precipitate separated in three seconds.	
70°	A whitish precipitate separated in 12 seconds, which turned red within one minute.	(*Note.*—On boiling two cubic centimetres of urine and two cubic centimetres of Fehling's solution for two minutes a brownish precipitate formed, nearly entirely soluble in distilled water.)
60°	A whitish precipitate in 20 seconds; turned red on standing.	
20°	A red precipitate on standing overnight. This steadily increased.	

(3) The following experiments were carried out with a solution prepared by dissolving double the usual quantity of copper sulphate in the same quantity of alkaline tartrate.

TABLE XIII.

Temperature (Centigrade).	One-tenth per cent. sugar solution and an equal volume of Fehling's solution, containing double the usual proportion of copper sulphate.	One-tenth per cent. sugar dissolved in urine (specific gravity 1020) and equal volumes of similar Fehling's solution.
100°	Immediately on boiling a reddish precipitate formed.	A thick green precipitate in about one minute.
90°	Precipitation started in three seconds.	A precipitate began to form in two and a half minutes and eventually was of a thick green colour.
80°	Precipitation started in nine seconds.	In 15 minutes there was faint haziness but no definite precipitation.
70°	Precipitate started forming in 35 seconds; very slow.	—
60°	A very faint turbidity in two minutes; a steady increase. A yellow precipitate on standing overnight.	—
20°	Considerable red precipitate on standing overnight.	Nearly white precipitate on standing overnight.

The above results seem to offer small advantages over those detailed in Table X., but it was found that the solution on exposure to light slowly gave a red precipitate. With regard to alteration of the quantity of sodium hydroxide used in the preparation of Fehling's solution the researches of Worm, Müller, and Hagen[28] have already decided that such solutions are inferior to those generally employed.

5. A set of experiments were next carried out in order to detect the effect of (1) creatinine, (2) creatine, (3) uric acid and urates, (4) mucin, and (5) substances which might be present in small quantity in urine, such as theobromine and theine, upon the precipitation of copper compounds by boiling Fehling's solution with solutions of grape sugar in distilled water and in urine. In the following sets of experiments an equal volume of Fehling's solution was added and the mixture was boiled for a few seconds. These conditions were selected as being similar to those generally followed in carrying out Fehling's test. The effect of prolonged boiling is also considered.

(1) *Creatinine* ($C_4H_7N_3O$).—In connexion with the following experiments it might be kept in view that Voit states that creatinine may be present in urine to the extent of three milligrammes per cubic centimetre. This quantity would not normally be present throughout the whole day, otherwise the daily excretion of creatinine would be from four to five grammes, whereas Folin,[29] from recent work on the basis of Voit's normal diet, gives 1·55 grammes per day as an average. Bunge gives from 0·96 to 2·16 grammes per day, depending on diet, and Stillingfleet Johnson[30] from 1·5 to 2 grammes per day. The old value given by Parkes[31]—viz., 0·91 gramme per day—is certainly too small, and from the observed inhibiting effect of normal urine in preventing precipitation we would be inclined to agree with Folin's or Johnson's values.

The following is a summary of the results obtained on boiling solutions containing a certain weight of creatinine with an equal volume of Fehling's solution for a few seconds. A consideration of the results suggests interesting conclusions. Ten milligrammes of creatinine per cubic centimetre completely prevents the precipitation of 0·25 per cent. of sugar, but not of 0·4 per cent., while nearly double the maximum amount present in urine—namely, five milligrammes per cubic centimetre—cannot inhibit the precipitation of 0·25 per cent., but effectually prevents 0·1 per cent. from causing the formation of a precipitate under the conditions given. The maximum amount which would normally be present in urine, from two to three milligrammes per cubic centimetre, can still inhibit the formation of a precipitate when 0·1 per cent. of sugar is present, but 0·25 per cent. readily causes a precipitate to form. Experiments showed that one milligramme of creatinine per cubic centimetre in distilled water could not inhibit 0·1 per cent. of sugar from causing a precipitate, a greenish precipitate

TABLE XIV.

(*a*) Proportion of creatinine present, 10 milligrammes or more *per cubic centimetre.*

Percentage of sugar present.	Aqueous solution of 10 milligrammes of creatinine per cubic centimetre.	Urine solution. 10 milligrammes of creatinine per cubic centimetre were added, but the total quantity would be greater.
None added.	Bluish-green on standing. After boiling for three minutes turned yellowish-green but no precipitate formed and on standing for a few days the solution became blue again.	Turned bluish-green but no precipitate formed.
0·25	On boiling for ten seconds changed first to green and then to yellow, but no precipitate formed.	Changed to light green; no precipitate.
0·4	In one minute and five seconds a green precipitate began to separate. This changed to yellow and then orange.	Turned green, and in one minute and five seconds a yellow precipitate formed.
0·5	Turned yellow and in 45 seconds a yellow precipitate formed, which became reddish on standing.	In 40 seconds a yellow precipitate formed. (*Note.*—The presence of uric acid probably aids precipitation in the above cases.)

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[28] Pflüger's Archiv für Physiologie, vol. xvi., p. 567.

[29] American Journal of Physiology, 1905.

[30] Loc. cit.

[31] Chemical Physiology and Pathology, Halliburton, 1891, p. 716.

TABLE XIV. A.

(b) Proportion of creatinine added, five milligrammes per cubic centimetre.

Percentage of sugar present.	Aqueous solution.	Solution in urine of specific gravity 1022.
None added.	*No perceptible effect. Solution remained blue.*	Very slight effect. Solution turned greenish-blue.
0·1	No precipitate. Deep greenish-blue solution.	No precipitate. Solution turned greenish-blue.
0·25	The solution turned first green and then yellow and in 50 seconds a green precipitate appeared, which changed to orange.	The solution turned first green and then yellow and in 75 seconds a green precipitate began to separate.
0·4	In 25 seconds a yellowish precipitate formed which turned red within 40 seconds.	In 30 seconds a yellow precipitate.
0·5	In 23 seconds a deep orange precipitate separated.	In 20 seconds a greenish precipitate separated which changed to orange.

TABLE XIV. B.

(c) Weight of creatinine added, 2·5 milligrammes per cubic centimetre.

Percentage of sugar present.	Aqueous solution.	Solution in urine of specific gravity 1022.
None. added.	Solution remained blue; no apparent change.	Solution remained blue; no apparent change.
0·1	*No precipitate. The solution remained blue.*	No precipitate. The solution remained blue.
0·25	Turned first green and then yellow and in 30 seconds a greenish precipitate came down, which turned yellow on standing.	Turned green and then yellow, and in 37 seconds a green precipitate came down, which turned yellow on standing.
0·4	In 12 seconds precipitation started; turned reddish within 25 seconds.	In 13 seconds a precipitate began to form.
0·5	In seven seconds a red precipitate began to come down.	In 11 seconds a yellowish precipitate started forming; reddish after a time.

forming within two minutes of boiling, but 0·05 per cent. was inhibited, provided the solution were not boiled for some time. As creatine, mucin, and other substances of less powerful inhibiting action than creatinine are present in urine, one might expect that under ordinary conditions quantities up to 0·1 per cent. of sugar might be present without a precipitate being formed with Fehling's solution unless boiling were prolonged; uric acid probably aids precipitation but not seriously. Now, in Table X. it is shown that as a rule the addition of 0·1 per cent. of sugar to a normal urine causes the formation of a green precipitate within one and a half minutes after boiling with Fehling's solution and in Table V. C indication is given that even in the case of a very concentrated urine of specific gravity 1045 by properly adjusting the quantity of Fehling's solution used, a precipitate can also be obtained after the addition of only 0·1 per cent. of sugar. In the latter case, the quantity of creatinine might considerably exceed three milligrammes per cubic centimetre. It follows logically from these results that very probably normal urine contains some glucose or body of similar reactions but presumably under 0·1 per cent., otherwise the addition of 0·1 per cent. should not cause a precipitate to form. This would readily explain the observed results as regards precipitation. The quantities determined by safranin, too (assuming the reducing substance indicated by safranin to be grape sugar, perhaps along with similar bodies, e.g., isomaltose), namely, 0·1 per cent. for the sample used in Table X. and 0·2 per cent. for the sample used in Table V. C would agree well with the results obtained. In some cases when the specific gravity is low, e.g., 1008, safranin has been found to indicate as little as 0·02 per cent. of reducing substance similar to glucose.

The effect of prolonged boiling.—Many experiments were carried out, of which the following are typical. It occurred to us that the effect of boiling a solution for some time—say, for two or three minutes—as opposed to merely boiling for a few seconds might be most readily studied in connexion with creatinine as inhibiting substance. The following is a summary of results.

TABLE XV.

Percentage of sugar.	Weight of creatinine per cubic centimetre.	Effect of just boiling mixture of two cubic centimetres of Fehling's solution and two cubic centimetres of creatinine and sugar solution.	Effect of prolonged boiling (from two to three minutes).
0·1	5 milligrammes.	No precipitate.	Turned light blue, but no precipitate.
0·1	3 ,,	,,	A green precipitate after boiling for some time.
0·1	2 ,,	No precipitate in two and a half hours.	A green precipitate settled after a few minutes which finally turned orange.
0·1	1 ,,	A green precipitate in 30 seconds which slowly changed to orange.	—
0·05	1 ,,	No precipitate.	A green precipitate settled in a few minutes, finally turning orange.

It is obvious from the above table that the effect of prolonged boiling is advantageous in that it tends gradually to overcome the inhibiting effect of the creatinine. In the case of urine and Fehling's solution, however, boiling for some time is only satisfactory if the proportions of Fehling's solution and urine are regulated approximately as given above, since, if the urine is too concentrated for the proportion of Fehling's solution used only a deep orange solution is obtained or a brownish precipitate separates. In this connexion it must be mentioned, however, as will be pointed out later, that a slight green precipitate from a concentrated urine after prolonged boiling with Fehling's solution when urates are present in quantity (and the safranin test indicates 0·2 sugar or thereby) may be partly due—probably only slightly—to the urates present. It may be concluded, therefore, that boiling for a few minutes with Fehling's solution will detect traces of sugar which otherwise would not cause apparent reduction, but from the point of view of life assurance we are of opinion that such indications cannot be of real value. If when the quantities of Fehling's solution and urine are regulated approximately as described there is no precipitate within five minutes of just boiling the mixture, it may confidently be said that the quantity of sugar present is not of pathological import. There is much less chance of making a mistake as regards urates if one merely boils for a few seconds.

(To be concluded.)

A NEW ASPECT OF THE PATHOLOGY AND TREATMENT OF LEPROSY.

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AT the meeting of the British Association for the Advancement of Science held in Cape Town in August, 1905, I read a paper on Leprosy[1] as I was acquainted with it in Cape Colony. Many of the points which will be brought out in the following paper are less distinctly defined in the article I refer to. My views on the subject, however, have since become more precise and definite. I may be pardoned if I mention the experience which I have had to allow me to form any conclusion on such an intricate subject, one which has puzzled so many previous observers. In the course of visiting Norway I had been over the leper asylums in Bergen, Molde, and Trondjem, and was therefore acquainted with the clinical character of the disease. I, however, looked on patients suffering from leprosy as a kind of medical curiosities. I found, however, in coming out to this country in 1894 as Medical Officer to the Bacteriological Department in Grahamstown that leprosy was endemic in this country and that cases of it were very numerous. I saw several cases of it in the neighbourhood of Grahamstown, and a gentleman whom I knew well had a body servant who was found to be suffering from leprosy to the great consternation of his family. The question has also been investigated by numerous Parliamentary commissions without much further result than the increasing stringency of the Leprosy Repression Acts. In 1896 I was sent by the Government to act as medical officer on Robben Island, where there were at that time about 500 patients suffering from this disease as well as other large establishments consisting of lunatics and convicts. I had previously been medical officer in large asylums in England and so was accustomed to see people deprived of their civil liberties on account of infirmities. But I must admit that I was rather staggered by the condition of things I found on Robben Island amongst the patients suffering from leprosy. The great majority of these people belonged to a very humble station in life indeed. But there were some of the respectable middle class quite intelligent and able to discuss all the affairs of the day. Some of these had apparently not much the matter with them, and had been living there for years, though they were undoubtedly suffering from leprosy in a mild form. Robben Island is a depressing place to live on and the presence of homicidal lunatics in the establishment for the insane there does not tend to cheer matters up. Of course, the lunatic asylums and the leper asylums are kept so far as is possible entirely separate, and I am not aware of any case of communication among the lunatics. At that time all the establishments were under the control of a lay magistrate. Owing to some administrative blunders, not unpardonable in such an extensive and trying establishment, the Government had lost its trust in medical control and the position of the medical officers on the island was therefore a subordinate one. I may here mention that in my work among these patients for seven years from 1896 to 1903 I was much helped by the way the officials concerned devoted themselves to the interests of the patients. The work of the chaplains especially deserves notice. In my day those resident in the island were the Rev. Mr. Watkins, M.A. Oxon., who has now left the island; the Rev. Mr. Engleheart, B.A. Oxon., the present Anglican chaplain there; and the Rev. Lewis Hugo, chaplain to the Dutch Reformed Church on the island. Their devotion to the unfortunate patients was in my opinion deserving of all credit and should have public recognition.

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[1] THE LANCET, April 28th, 1906, p. 1167.

Mr. Jonathan Hutchinson has taken a good deal of interest in Robben Island. He devotes a good many pages to it in the book which he has recently published called "Leprosy and Fish Eating." It gave me very great pleasure in 1902 to have him for a few days as my guest on Robben Island. We indeed did not hit it off on his theory of the cause of leprosy, but I was able to show Mr. Hutchinson as many patients as he could examine during the short time at his disposal. He found that a great number of them had at a certain period of their lives partaken of salt fish—a fact that seemed to give him a good deal of satisfaction, though what bearing it had on the question I failed to see. But we must all agree that the utmost credit is to be given to Mr. Hutchinson for the great interest which he has for many years taken in these unfortunate people.

Dr. Kolle was the one who first directed my attention to the condition of the nose and naso-pharyngeal passages in leprosy. He was brought out to this country to investigate leprosy in 1897 by the Colonial Government, to whom the question has always been a very thorny one. He was specially recommended for the post by Professor Koch. Dr. Kolle was a skilled bacteriologist and a highly competent man, and had his services been retained I have no doubt that he would have been of great use to the Government and have come much more quickly than I have been able to do to some of the conclusions which I will state later. But we all know that in this country the lives of oxen are of more value than those of men and women, and he was detached from his work on Robben Island and sent to investigate rinderpest. Having been of much service in this matter, and feeling that his services were not being properly appreciated, he returned to Berlin. Practically not much has since been done to encourage research on Robben Island.[2]

I kept Dr. Kolle's suggestion in my mind and after some years of working among the patients on Robben Island I found that it afforded a key to some of the most perplexing problems of leprosy. I was for a long time extremely puzzled to account for the marked clinical difference between maculo-anæsthetic leprosy and nodular leprosy, though they were undoubtedly two forms of the same disease. At last it occurred to me that nodular and mixed leprosy were simply maculo-anæsthetic leprosy plus the infiltration and œdema of the subcutaneous tissue in various parts of the body, caused by the active invasion of the bacillus lepræ. In practically all cases of nodular leprosy anæsthesias and leucodermic patches can be found just as in maculo-anæsthetic leprosy. I also noticed that when a nose had fallen in in some cases of nodular or mixed leprosy the type of the disease in the individual seemed to change and he became practically in course of time a maculo-anæsthetic case, the infiltrations being gradually absorbed. I further noticed that some cases of undoubted maculo anæsthetic leprosy were of an extremely mild character. A patient would have a few anæsthetic patches on his body with, perhaps, a contraction of the small and ring fingers of one of his hands and would otherwise be in perfect health—in which condition he would remain for years. I also found that practically all the active cases of mixed and nodular leprosy suffered from rhinitis and were discharging bacilli with the nasal secretion in great numbers, whereas except in a few of the early cases I found that the maculo-anæsthetic patients had no bacilli in their nasal secretion. The above considerations afforded me what I consider to be a solution of the problem. I think that there can be hardly any doubt that leprosy in its early stages begins as a small ulcer on some part of the extensive nasal mucous membrane. We know quite well from our clinical experience of the disease that leprous ulcers in favourable circumstances tend to heal. There can therefore be little doubt that a person can suffer from a leprous ulcer in the nose that may heal and pass entirely away. This is the explanation of the maculo-anæsthetic cases. They have had nasal ulceration which has passed away, in some cases leaving perhaps a cicatricial shrinking of the nasal septum, but during the time the ulcer existed leucocytes or white connective tissue corpuscles got detached from the ulcerating spot and along with the bacilli which they were attempting to devour were carried by the blood stream and lodged in various situations in the peripheral nerves, where they got entangled, and the bacilli then proceeded to grow, causing pressure on the fine nerve fibrils and consequently setting up nutritive changes in the skin which these axis-cylinders supplied, thus causing the patches of discolouration and anæsthesia.

In the nodular and mixed cases the progress of the disease is quite different. Instead of the nasal ulcer healing up it proceeds to grow apace, causing extensive destruction of the nasal mucous membrane, causing it to swell up and ultimately attacking the nasal bones themselves. We have something to guide us from what we know of other diseases affecting the nose, such as fleshy growths from the nasal mucous membrane, and how if not treated the nose becomes distended and the aspect of the patient altered. Also in the disease called post-nasal adenoids in children, how from their intranasal pressure they cause the face to assume a heavy, puffy, and stupefied appearance. A similar condition takes place in nodular leprosy. The accumulating swelling of the mucous membrane extending into the numerous interstices of the naso-pharyngeal cavity causes the face to assume its characteristic appearance of this clinical variety of the disease, assisted of course by the leprotic infiltration from the festering nasal ulcer. But the festering sore has other consequences. The enormous number of leucocytes which are on the scene trying to overcome the invading bacilli get many of them translated to other parts of the body. They carry with them bacilli which in leprosy seem to have the property, at any rate at some part of their life-history, of growing within the white blood corpuscles and thus propagating the disease through all parts of the body. As in maculo-anæsthetic leprosy, they get entangled in the peripheral nerves and cause anæsthesias and discolourations of the skin and they also in nodular leprosy form large accumulations in the liver, the spleen, and in certain situations in the subcutaneous tissues throughout the body and the patient becomes at last, if not properly treated, a mass of ulcerating sores.

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[2] Dr. J. A. Mitchell, now assistant medical officer of health of the colony, who succeeded Dr. Kolle as bacteriologist to Robben Island, was shortly after his appointment detached for plague work. The post was not filled up.

The course of the disease is, as is well known, extremely protracted and the cases which we see in our asylums are in nearly every instance in a very late stage of the disease, even on admission. The very early stage of the nasal ulceration, naturally not being recognised, is completely overlooked, even by the patients themselves. They think that they are perhaps merely suffering from a protracted nasal catarrh, to which they pay no attention and which they forget all about when the graver symptoms of the disease make their appearance. But at these extremely early stages of the disease these people are sources of infection, and this fact affords a very clear and simple explanation of those mystifying and apparently hopelessly inexplicable cases of leprosy which from time to time occur. You ask one of these patients, "Has he ever been in contact with a person suffering from leprosy?" and he vehemently and perfectly truthfully affirms that he has never been in such contact. But though he did not know it, and though the communicator of the disease did not know it, he has been in contact with a person suffering from the primary early rhinitis of leprosy.

The explanation of the pathology of the disease which I have briefly attempted to sketch above as, in my opinion, affording a true statement of its nature, throws fresh light on the whole subject. It is puzzling to understand how it previously escaped recognition. Its importance will be at once recognised when it is seen that if this view is correct considerable numbers of the maculo-anæsthetic cases in whom the infectious nasal ulceration has disappeared may be allowed to return to their ordinary environment after, of course, a proper and careful examination of their cases. The contractures of fingers or limbs, the sores or ulcers, the necroses of bones from which in advanced cases many of them suffer, are purely due to the nutritive nervous supply of these parts being cut off. Similar conditions occur, as is perfectly well known, in other diseases when the integrity of the nervous channel is affected between the trophic nerve cell and its termination in the motor end organ or tactile corpuscle, as the case may be. This view also affords some degree of hope for the nodular cases. There is no reason why the festering sore which is the real cause of their complaint should not be attacked by curetting and other surgical means and by prolonged antiseptic lavage, so that the nasal cavity can be cleared so far as is possible from the bacilli which are infesting it. I have already mentioned that I noticed that in certain cases of nodular leprosy in which the interior of the nasal cavity had been so devastated that the bacilli had no further ground to grow on, the type of the disease gradually changed and the patient became to all intents and purposes a maculo-anæsthetic case. This view also will give some protective comfort to those who are engaged in the care of these people. Small blame to them if they are often haunted by obsessing fears of themselves falling victims to the disease, but if their early rhinitis is noticed it can be treated and the disease perhaps prevented from further development.

This view brings leprosy, so far as pathology and treatment are concerned, into line with tuberculosis and diphtheria. The organism seems to be a kind of surface growth which takes a very considerable time to get firmly established in the body. We know that the lower animals seem to be practically immune from the attacks of the bacillus lepræ. This would seem to show that it is an organism of an antique type and that the lower animals have become immune in the course of ages. That it is an organism which has great difficulty in establishing itself the records of all hospitals for patients suffering from leprosy clearly show. If it were possible to inoculate it through the skin of the surface of the body no doubt there would be numerous cases of communication in our asylums. Are there not numerous instances when out of a morbid religious impulse monks have done all that they could to inoculate themselves with leprosy and totally failed? This surely clearly shows that the disease in the natural course of events tends rapidly to die out in the body unless reinforced by a continual supply of bacilli, as is the case in nodular leprosy from the extending nasal ulcer.

Another consideration which has an important bearing, in my opinion, on the future treatment of the disease is the discovery by Sir A. E. Wright of the opsonins in the blood, those chemical bodies which contribute to the vitality of the white blood corpuscles and which seem necessary to their power of attacking bacillary invaders. It has been found that in tuberculosis where that disease is making progress these bodies are reduced in quantity and that when *they are reinforced the disease* can be combated and checked. There seems great reason that experiments should be made to ascertain whether this method could not be called in to assist in combating the attacks of the bacillus lepræ as well as those of the bacillus of tuberculosis. And I think that the Government should have this matter investigated by some scientific man of ripe experience and acknowledged reputation.

At present no systematised effort of research is being made in our asylums. It is only due to the patients themselves that their feeling of self-respect as men and women should be restored by the knowledge that everything that modern medical science can do is being afforded them in their trying seclusion from the society of their fellows. Moreover, if my views are correct, much of the mysterious and unpleasant character of the disease will be eliminated and the feelings of the public towards the sufferers will be less aloof and much more helpful and encouraging. Not only are the patients to be thought of but the medical officers of those large establishments scattered all over the world who are faced with an apparently hopeless problem. If there is a modicum of truth in the views which I have briefly and dimly expressed they will have some definite lines to guide them in the way they should regard and manage the treatment of one of the most puzzling of diseases.

AN ADDITIONAL NOTE ON THE ERYTHEMA OF LEPROSY.

It is well known that in nodular leprosy there is during a considerable period of the disease an erythematous red blush on the face, the hands, and the feet. It is early seen in recognised cases of nodular leprosy, on the forehead, about the root of the rose, and eyebrows, and continues to extend as the infiltration of the face proceeds. On the fingers and hands it also gradually increases as the infiltration of the subcutaneous tissue increases in these parts. The face, the hands, and the feet are those parts naturally unprotected and which are exposed most to variations of temperature, and their vaso-motor systems are therefore most responsive to conditions affecting them. We know that erythemata are very frequent in toxæmic conditions. I was much struck by noticing the course of *some cases of erythema* probably due to autotoxic intestinal sources (for I could find no other) which affected the face, the hands, and less markedly the feet. The face, particularly about the eyes and forehead, became red, puffy, and swollen. This was also the case with the fingers. And the condition waned and waned for some time, being very obstinate as regards treatment. It, however, ultimately passed off altogether, though in all the cases I observed there were relapses. Now the erythema of leprosy at first affects similar situations long before the nodules make their appearance. It is therefore in all probability due to a toxæmic source. Whence is that source? It can hardly be from the bacilli lepræ themselves. These never cause suppuration. They appear never to cause coagulative necrosis. I have injected extracts of large quantities of bacilli lepræ into animals without apparent effect of any kind. The bacilli appear to form no toxin of any potency whatever and are probably quite inert except as forming mechanical obstructive growths. The leprotic erythema is, in my opinion, derived not from toxins formed from the bacillus lepræ but from toxins produced by the very large number of streptococci, staphylococci, and the numerous other microorganisms which are naturally associated with the festering sore spreading through the naso-pharyngeal cavity. Thus the swelling of the hands and feet due to the prolonged toxæmic erythema and consequent chronic state of œdema is in reality not due to the toxins of the bacilli lepræ but to those of other associated micro-organisms. Of course, this state of chronic erythema and œdema with the ensuing alterations in the capillary circulation make a concomitant infiltration with bacilli lepræ more effectual. The surgical means which I have pointed out as being so likely to arrest the process in the nasal cavity would also assist in stamping out the nests of coccal organisms which no doubt get into the blood stream in great numbers, causing suppuration in parts weakened by want of trophic support when their nerve fibrils are cut off in various situations by the pressure of cellular growth round emigrant bacilli.

Cape Town.

A METHOD OF TAKING IMPRESSIONS OF THE WEIGHT-BEARING SURFACE OF THE FOOT.

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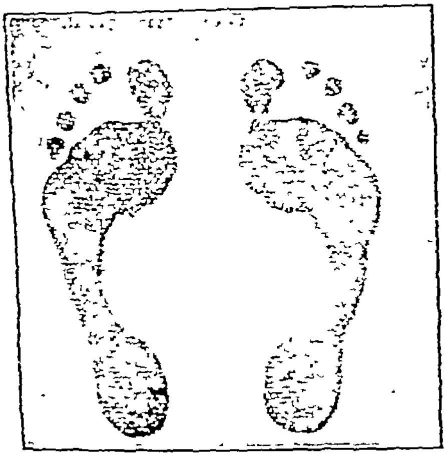
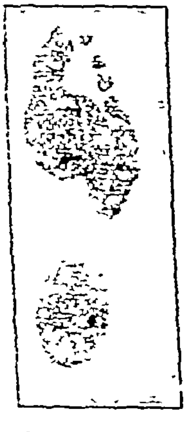
THE method usually recommended of obtaining impressions of the foot—viz., by standing on a smoked paper—has the disadvantage that for a permanent record the impression requires to be varnished. A method recently advocated by Schüman of Leipsic[1] gets over the difficulty by employing two solutions—one a solution of ferric chloride (half strength B.P. liq.), with which the paper is thinly coated and afterwards dried, and the other a 5 per cent. solution of ferrocyanide of potash. The foot is painted with the ferrocyanide *solution and then placed on the paper and a blue* impression is left which is permanent and requires no after-treatment. The preparation of the paper, however, is troublesome and it is difficult to get the foot evenly wetted with the ferro-cyanide solution.

FIG. 1.



The impression of normal feet.

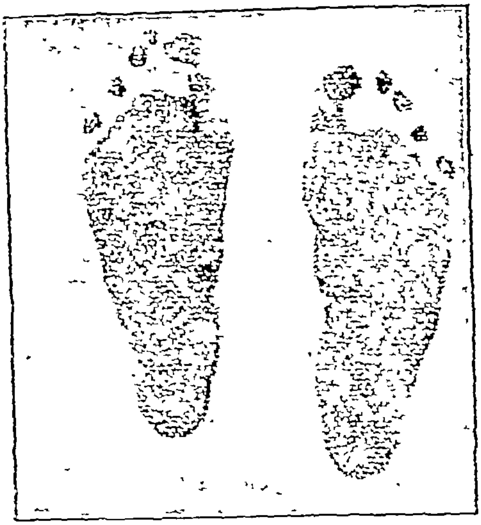
FIG. 2.



Showing the result of high heeled boots.

The method advocated in this *paper* is that employed in taking impressions of finger-tips for identification purposes. The materials required are a glass slab, say 16 inches by 13 inches, a roller, and a tube of specially prepared printer's ink. A *thin film* is *pressed* out on the glass plate by the roller, and after standing on this the patient transfers his blackened sole to a sheet of paper. It is important to see that the patient puts his weight on the foot during both parts of the process. The result is an accurate and permanent impression of the weight-bearing portions of the foot. The foot can be easily cleaned with soap and water.

FIG. 3.



From a case of flat feet.

The impressions may be photographed and reduced in this way to a size suitable for the note-book. The illustrations are *from photographs of such* impressions. A normal impression, Fig. 1, is by no means the rule. Fig. 2 shows the result of wearing high-heeled boots—viz., pes cavus with crowded toes. Fig. 3 is from a case of flat-foot. The method is inexpensive and easy of application.

Llandudno.

ORAL SEPSIS IN OPERATIONS ON THE THROAT.

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*So much attention has recently been paid to the con*nexion between oral sepsis and infective fevers that oral sepsis relative to operations upon the throat naturally presents itself for consideration. It seems almost superfluous to emphasise the necessity for careful cleansing of the parts before and after such operations, yet notwithstanding the elaborate precautions taken in other regions it must be admitted that in the more familiar cases of tonsillotomy, uvulotomy, &c., *the same amount of care is not* always taken. This may be explained, in part, by the prevalence of the view that these cases generally "do well of their own accord" and that complications are extremely rare even in hospital out-patient practice; or that, unlike other regions, the mouth cannot be sterilised by ordinary methods, and if it were possible it could not be kept sterile for very long, its functions themselves preventing it. However great a measure of truth there may be in such contentions, they certainly do not justify a total disregard of ordinary cleanliness in the mouth, even if an ideal asepsis is unobtainable. That most of them do terminate satisfactorily in the absence of special precaution must be admitted. At the Central London Throat and Ear Hospital it is customary to see every case of tonsillotomy on the eighth day after operation, when quite 90 per cent. are either completely healed or nearly so. But there *remain some patients in* whom the "stump" is very unhealthy looking, disinclined to heal, and complicated with middle-ear infection and constitutional symptoms. These are almost invariably the subjects of oral sepsis, malnutrition, or neglected sanitary measures—personal and domestic. Further, they are mouth breathers. Mouth breathing is one of the chief causes of oral sepsis and being an obvious result of nasal obstruction it is practically impossible to maintain a healthy mouth unless nasal breathing be first restored. The bad habit, however, unfortunately too often persists for a long time after the cause is removed in spite of discipline and every effort to correct it.

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[1] Münchener Medicinische Wochenschrift, Jan. 9th, 1906.

Although insanitary surroundings of the patient may be credited with much responsibility for complications, it is remarkable how few children of even the poorest class, living in the filthiest surroundings, are ever subject to protracted healing or other complications when the simplest measures for insuring mouth cleanliness are carried out. It is chiefly in the debilitated and the neglected that they arise. Trouble from middle-ear infection in adenoid operations is now fortunately very rare among this class, a result not unreasonably attributed in no small degree to the prohibition of nasal douching. The healing of so large an area as that occurring in a bilateral tonsillotomy, together with a "raw" naso-pharynx, *must* be influenced by a septic mouth. There need be therefore no doubt as to the expediency of adopting trustworthy corrective and preventive measures, not only before but during and after the operation. Bacteria may not only be reduced in number and virulence but the local conditions may be rendered as unfavourable as possible to their development.

The bacteria found in the mouth and the throat, both in apparently healthy and in diseased states, are so numerous that an exhaustive list would be too cumbrous in this article, but as it is customary arbitrarily to divide them into non-pathogenic and pathogenic it is necessary that in the present state of our knowledge a warning should be given of the danger of too strict a limitation. This specially applies to the moulds, since many of them are now recognised as pathogenic, and we have every reason to believe that under favourable conditions the list may be greatly extended by the inclusion of those which are at present classed non-pathogenic (1).[1] For clinical evidence, bacteriological evidence, and published opinions are so conflicting that the pathogenicity, the specificity, or the harmlessness of most of them must not be too readily accepted or rejected, nor can too much caution be exercised in attributing to each one its respective power for good or ill. Both local and general powers of resistance and receptivity doubtless play important rôles, since it is not at all *uncommon to find* diphtheric and tubercle bacilli in the throats of healthy patients, likewise diplococci and streptococci bacteriologically indistinguishable from the most virulent. To several bacteria have been dogmatically attributed individual clinical specificity—e g., the fusiform bacillus of Vincent, leptothrix, streptothrix, and spirochæta, yet each micro-organism may not only be found in the scrapings of almost any ulcer of the mouth and fauces but also in the apparently normal.

In six recent cases of persistent ulcers of the pharynx and tonsils of doubtful nature five of them afforded a pure growth of penicillium glaucum on serum and agar, while the sixth gave an equally pure crop of streptococcus pyogenes. In less than a week each case was healed and further cultures were negative. It must be admitted that at present clinical and bacteriological interpretation of bacteria occurring in this region are conflicting and most confusing. We must, therefore, not be too ready to accept as innocent or friendly a micro organism which happens to be a "saprophyte," for in many of the moulds may be latent dangers almost as serious as those attending the more notorious pyogenic germ (2) (3)

Although the mouth, fauces, and oro-pharynx at all times may each be considered a perfect garden of germs it is fortunate that under normal conditions the naso-pharynx is practically sterile. This may be due in part to the effective filtering action of the nostrils, the activity of the ciliated epithelium, but also in no small degree to the rich outflow of leucocytes and alexines from the healthy mucous membrane and lymphoid tissue of the parts. For whenever those tissues are diseased the cavity loses its sterility and swarms with bacteria. This is strikingly illustrated by Atrophic Rhinitis a disease in which the ciliated epithelium is replaced by stratified squamous cells and all the lymphoid elements entirely disappear, when the naso-pharynx is found to be swarming with micro-organisms and is offensively fœtid. If we are right in attributing a protective power to these lymphoid structures surely special care is demanded after their wholesale suppression, as happens in tonsillotomy and the removal of adenoids.

How can the parts be cleansed? As already mentioned, the naso-pharynx is normally sterile, but not always so in adenoids since they are not infrequently the seat of morbid changes, drainage and ventilation being more or less impaired. As a rule, however, the less an infant's nose is interfered with the better. Anterior or posterior nasal douching is not to be recommended (except in very rare cases) owing to the danger of infecting the middle-ear through the Eustachian tube. The careful introduction of boricated vaseline on a camel-hair brush, or the tip of the little finger, well into each nostril will excite sneezing and a copious nasal flow which generally clears the passage from accumulation. After the operation, in about from 12 to 24 hours, a solution of 1 per cent. of Peruvian balsam in liquid vaseline blown with an atomiser into the nostrils will keep the parts clean and sweet. If old enough, the child should at once be "disciplined" in gently blowing the nose, but violent efforts must not be allowed until healing is complete and then only with great caution. The naso-pharynx will, as a rule, be kept quite clean by these measures apart from its own army of scavengers, the leucocytes. It need scarcely be added that under diseased conditions of the nose and naso-pharynx, such as an acute catarrh or atrophic rhinitis, all oral and throat operations should be undertaken with the strictest precaution, if at all.

Cleansing of the mouth and also the fauces is, however, far different and demands more energetic measures. As already stated, complete asepsis of this region is practically impossible but much can be done towards cleansing and keeping it clean. If the teeth are decayed a thorough treatment at the dentist's hands is indispensable, for no case should be operated upon at any age when suffering with carious teeth. The younger the patient the greater will be the difficulty, for infants and young children naturally resent all attempts to cleanse the mouth or throat, whatever method may be employed. But, fortunately, the younger the child, the lower is the septicity of the mouth (4), but with greater range in food, with increased mouth breathing and dental development, the greater is the likelihood of bacterial development. Gargles are out of the question; therefore swabbing, irrigation, or direct application by sucking the different drugs must be resorted to in infancy and early childhood. At later ages, the patient's intelligence being relied upon, a wider range of selection will be available.

We will first deal with infants. Should there be any thrush, a gentle but thorough swabbing with glycerine of borax on a firmly applied cotton-wool mop every few hours and careful avoidance of re-infection will soon clear off the patches. But strict assurance must be taken that the parts are quite free before attempting operation. Although there are many other far more rapid and thorough antiseptics, they are too irritating, too unpleasant in taste, or so harmful if swallowed as to impair their practicability. Boric acid in 10 per cent. solution, sanitas (1 per cent.), and lysoform (½ per cent.) are all useful, especially the last, but for general use by the nurse a tablet of formamint, crushed and carefully inclosed in a piece of butter-cloth, the ends being secured by stout thread and held, may after moistening in water be placed in the infant's mouth for a few minutes several times in the course of the day. It readily dissolves in the saliva, has a pleasant taste, is non-poisonous, and yet most effectively controls bacterial growth and con*sequent fermentative processes. This is equally* useful and trustworthy during the healing process, and is a method preferable to simply placing the tablet in the mouth, a somewhat dangerous practice at such an age (5).

Formamint, which has received much attention on the Continent and has already been referred to in this country, is a loose chemical combination of formic aldehyde and lactose, put up in the form of a compressed tablet, each one containing one-sixth of a grain of formic aldehyde, combined with sugar of milk, citric acid, and pepto-hydrochloric acid, and flavouring agents. It differs entirely from a simple solution of formic aldehyde in nature and in action, being much more powerful, devoid of any irritating property, and on solution by the saliva sets free that disinfectant in a nascent form. It is maintained by Zwillinger (6) that it acts not only as a powerful local antiseptic but that it also continues its action after absorption as an antitoxin, so aiding the reputed neutralising effect of healthy saliva upon toxins of oral origin as well as helping the immunising rôle of phagocytes in the pharynx.

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[1] The figures within parentheses refer to corresponding numbers in the bibliography at the end of the article.

In the case of older children and adults even more active measures are demanded, since a septic state of the mouth is generally either more pronounced or more likely to occur. In them even greater precautions with regard to the teeth must be taken, especially in cases involving treatment of the accessory nasal sinuses. A stronger mouth douche at such ages can be employed successfully, owing to the patient's intelligent coöperation, supplemented by the tooth-brush. Gargles are best avoided, especially when the parts are inflamed, from the great risk of swallowing the fluid or from causing pain and irritation due to its getting into the sensitive naso pharynx and larynx. Few patients ever learn to gargle properly and failure only causes disappointment. Further, the act of gargling violently agitates structures which demand rest and passive treatment and there is the further risk, as in anterior and posterior nasal douching, of infecting the middle ear when improperly performed. Many subjects of adenoids and enlarged tonsils are quite incapable of gargling owing to paresis of the soft palate and faucial sphincter. In acute angina its painfulness is alone sufficient to indicate its inappropriateness when odynphagia is such a prominent symptom.

The most satisfactory substitute for gargle is either a mouth douche or a soluble lozenge. In case of the former the mouth is partially filled with solution, the head is thrown back, and the lips are closed while the tongue's movements distribute the fluid. But by far the more thorough method is that of the lozenge as exemplified in the formamint tablet This should be placed in the mouth and allowed to undergo passive solution rather than active mastication, a process which facilitates a closer contact and a wider distribution of the antiseptic, with but little discomfort and no danger to the patient.

The list of available mouth antiseptics is a very large one, but few of them are free from shortcomings however powerful their antiseptic action may be. First we have phenol, which, if employed in sufficient strength to kill bacteria, is not only poisonous but also unpleasant and temporarily destroys the sense of taste (and smell too if applied to the olfactory mucous membrane). Liquor carbonis detergens, creolin, cyllin, &c., are equally unpleasant but less toxic and perhaps relatively stronger as bactericides, yet good deodorants. The different permanganates are certainly better, especially permanganate of zinc This is not only effectual but pleasant and far superior to the sodium and potassium salts. One tablet (one-tenth of a grain) should be dissolved in half a tumblerful of water. Preparations of menthol, eucalyptol, thymol, and other volatile oils are only deodorants. Biborate and bicarbonate of sodium are useful adjuvants since they dissolve mucin, but, like boric acid, have but slight antiseptic power, as also salicylic acid and its salts, which, further, are solvents of epithelium. Chlorinated soda is undoubtedly valuable, especially when there are specific ulcers and much fœtor. Weak solutions of sulphurous acid readily kill "mould" deposits such as thrush, aspergillus forms, leptothrix, and spirochætæ Sanitas and different preparations of peroxide of hydrogen are not only good disinfectants and deodorants, but they are especially valuable in being non-poisonous. Formalin must be used in very dilute solutions and only employed in the mouth owing to its pungency and irritative action upon the more delicate respiratory tract. Lysoform however, is less pungent, and as a mouth douche in ½ per cent. solutions it affords a highly antiseptic and powerful deodorant. Martindale's combination with lavender is pleasant and effective. It need scarcely be emphasised that the salts of mercury should only be used by the surgeon. Acetozone is not only useful in the mouth but may also be employed as a nasal spray (10 grains to one pint of water) in the same way as Löffler's solution. These antiseptics may be used not only in solutions of appropriate strength as mouth washes or douches by the patients themselves, supplemented by a sterile tooth-brush, but also applied as stronger solutions by the surgeon only, on swabs or mops to the selected areas.

Nasal douches are sometimes necessary but should only be prescribed with great caution. The most efficient and least irritating is a weak solution of borax and sodium sulphate (1 per cent.) preceded by an insufflation of boric acid and formamint, one tablet being finely powdered and mixed with 100 grains of specially fine powder of boric acid or, when greater stimulation is required, ½ per cent. of lysoform in boric acid. A strong antiseptic is not necessary, since the requisite cleanliness is certain to follow even slight stimulation by the outflow of exudate and leucocytes, which, together with the ciliary movement, can be relied upon effectively to cleanse the parts.

Although the foregoing selection includes but a few of many antiseptics, it is sufficiently representative to afford a trustworthy choice. Personal experience, however, enables the following preparations to be specially recommended: Formamint as a non-toxic and trustworthy antiseptic in all ages and all kinds of oral sepsis (it should be allowed passively to melt in the mouth, freely mixing with the saliva, and not masticated); permanganate of zinc for daily use and as a night and morning douche; lysoform, with or without lavender; sulphurous acid and liquor sodæ chlorinatæ in cases requiring a special preliminary swabbing and douching; and salicylic acid dissolved in borax when there is much epithelial accumulation.

But, as already mentioned, it is impossible to sterilise the mouth and keep it sterile by these or any other antiseptics. Nevertheless, the risk of auto-infection during operations in its neighbourhood may be greatly reduced by their intelligent employment.

Bibliography.—(1) Aspergillus Fumigatus. Baccarain: Gazetta degli Ospedali, April 26th, 1905. Aerobic Moulds in Granulomata. Lazarus-Barlow: Transactions of the Pathological Society of London, 1903. Thrush. T. D. Lister: Transactions of the Pathological Society of London, 1893. (2) Steptothrix. Habershon and Hichens: Transactions of the Pathological Society of London, 1901. *Streptothrix.* Emery: Transactions of the Pathological Society of London, 1903. (3) Pathogenic Mould Sporothrix. Foulerton: Transactions of the Pathological Society of London, 1901. (4) *Sterility of Mouth at Birth.* Campo: Brit. Med. Jour Epitome, October, 1899 (5) *Formaldehyde in Infectious Diseases* THE LANCET, Dec. 23rd, 1905, p. 1871 (quoting Schwarzenbach). (6) Zwillinger, quoted in Brit. Med. Jour., Epitome, Jan. 13th, 1905. Paus: Medizinische Klinik, 1906, No. 16.

Stratford-place, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF GRAVES'S DISEASE TREATED BY RODAGEN.

BY J. RONALDSON RUSSELL, M.R.C.S. ENG., L.R.C.P. LOND.

RODAGEN is described as a mixture of milk-sugar and the desiccated milk of a goat from which the thyroid gland has been removed. It has been used with apparent success in cases of Graves's disease and the following is an account of a case in which I was able to try the effect of the drug. Messrs. R W. Greeff Eastcheap, London, kindly provided me with a supply of rodagen sufficient for a six weeks' trial. The previous history of the case before commencing rodagen was as follows. The patient was an unmarried woman, aged 29 years. She first consulted me in May, 1905, on account of loss of weight amounting to 14 pounds in three months. She suffered from profuse perspirations; exophthalmos was marked, and neither Stellwag's nor von Graefe's signs were present. There was uniform slight enlargement of the thyroid. Tachycardia was present, the pulse varying from 120 to 160 per minute. No cardiac murmur could be detected but the pulsations of the thyroid and of the large vessels of the neck were noticeable to the patient herself. Tremor of the hands was present and a feeling of weakness in the knees. She was sent to a farmhouse, where she had four pints of milk per diem in addition to ordinary diet, and was kept at rest in the recumbent position out of doors for one month. She was also given bromide and tincture of digitalis but without apparent benefit from these. On the other hand, the dieting and the rest apparently were of large benefit to her and all the symptoms became less severe and she increased in weight 7 pounds. Treatment by rodagen was commenced on June 17th, 1906, her weight being then 9 stones 4 pounds. She was first given five grammes per diem and afterwards 10 grammes. On July 16th her weight had increased to 9 stones 7 pounds and on August 7th she weighed 9 stones 12 pounds. At this date the treatment was discontinued. The weather during the whole of the time she was taking rodagen was very hot and the patient said that she was never so well in hot weather. Since taking the rodagen she states that the diarrhœa has certainly been less frequent. She has slept better and the weakness of the knees has not troubled her so much nor has the tremor. The headache, palpitation, and throbbing of the neck have, however, been much the same as before. I should certainly try the treatment again in any case where the expense was not prohibitive. I am quite aware that no definite arguments can be drawn from one trial of the drug in one case, but from other cases which have been reported I think that the drug deserves a further trial.

Westerham.

RUPTURE OF THE INFERIOR VENA CAVA.

BY WM. ST. CLAIR SYMMERS, M.B., C.M. ABERD.

I RECENTLY performed a post-mortem examination on a boy in whose thorax the following unique condition was found. A lad aged 16 years was brought to the Royal Victoria Hospital, Belfast, with the history of having been kicked in the chest by a horse. The patient survived for several hours, dying about four hours after the infliction of the injury. At the necropsy the skin over the chest was found to be normal in every respect; there was slight hæmorrhage in the right pectoralis major near its sternal attachment; the sternum was snapped through transversely just below the attachments of the third costal cartilages, the underlying mediastinal tissues being slightly ecchymotic. The pericardial sac was distended with dark blood containing a single large dark-red clot. The anterior surface of the heart was uninjured. The inferior vena cava was ruptured to the extent of exactly one inch on its anterior aspect, the rupture beginning at the auricle and running straight down the wall of the vessel. This rupture was gaping so that the orifice was oval in shape and nearly a quarter of an inch wide. Apart from some very slight hæmorrhage near the head of the pancreas the other organs were normal.

Belfast.

A CASE OF APPENDICITIS COMPLICATED WITH ACUTE OBSTRUCTION OF THE INTESTINE.

BY HENRY S. BENNETT, M.R.C.S. ENG., L.R.C.P. LOND.,
ASSISTANT MEDICAL OFFICER, NATAL GOVERNMENT HOSPITAL, DURBAN.

THE following case is of interest inasmuch as it comprises two serious conditions occurring at one and the same time, the cause of each being unusual.

The patient, a trooper in the Zululand Field Force, was admitted to hospital with the history that four days previously he experienced sudden and severe pain in the lower part of his abdomen; he commenced to vomit from this time. His abdomen had become distended and his bowels had been unopened. The symptoms continued and nothing could be retained in the stomach. On admission he looked worn, his eyes were sunken, and he was vomiting without reference to food, the vomited matter having a fæcal odour. The abdomen was tense and distended in the centre but there was no bulging in the flanks; there was tenderness on pressure all over but this was especially marked in the lower portion; no definite tumour could be made out. Percussion gave a tympanitic note in the centre but a dull one in the flanks, the area of dulness encroaching towards the umbilicus over the appendix region; the dulness in the flanks was shifting. Per rectum nothing abnormal could be felt. The pulse was 88 per minute, full and of good tension. His temperature was 96·6° F. An inquiry into his past history then elicited the fact that some five months previously the patient had experienced sudden and severe pain in the lower part of his abdomen, the symptoms lasting, however, one day only. A two-pint enema was given, but without result except that a few specks of fæcal matter came away.

The abdomen was opened through a median incision made below the umbilicus; the small intestine was much distended and its surface showed signs of acute inflammation; there was no great quantity of free fluid, and what there was was serous in character. On exploring the cavity some thickening could be felt in the neighbourhood of the appendix and on inspecting this site the appendix could be seen wrapped round a coil of gut. In order to facilitate working a transverse incision was made at right angles to the first one and directed towards the right flank. It could then be seen that the appendix was completely encircling a portion of the small bowel; the organ had formed a collar around a single piece of gut only, showing that it must have taken up that position previously to its blind end becoming adherent, rather than first forming a loop through which a coil of gut had slipped. It was impossible to free the adherent end of the appendix without risk of tearing the intestine, for that organ had formed almost a complete circle on itself, the distal end being adherent to the posterior abdominal wall close to the cæcum and beneath that portion of gut which it was constricting. The ring of appendix was therefore divided, the cut ends being immediately touched with pure carbolic acid. The gut having been freed the distal end of the appendix was detached from its bed, the proximal end being afterwards removed in the usual way. It was necessary to evacuate some of the contents of the small intestine in order to lessen tension and so allow the edges of the abdominal wound to be drawn together. The peritoneal cavity was washed out with normal saline solution and a drainage-tube inserted down to the site of the adherent appendix. On opening the appendix its wall was found to be much thickened and a pin, surrounded by a hard fæcal concretion, was seen filling its lumen.

As to the immediate cause of the intestinal obstruction, the history of sudden pain, vomiting, and other signs of obstruction had suggested that a coil of gut had become kinked under a band or had slipped through a hole in the omentum or mesentery, but this was found not to be the case, for, as stated, the appendix was encircling a single portion of bowel only and from the density of the adhesions must have been so situated for some considerable time, at all events for a longer period than four days. No doubt what had actually occurred was that a fresh attack of inflammation within the appendix had supervened, causing further swelling of its wall, and this had led to such constriction of the lumen of the gut as to cause absolute obstruction. The fact that the patient was on active service with the Militia force at the time of being taken ill is sufficient evidence that there was no serious obstruction to the passage of fæces before the present illness began; certainly he volunteered no history of constipation or of colicky pains when on duty. The patient was extremely collapsed after operation and died within four hours of leaving the theatre. He rallied sufficiently, however, to be able to state that he had no recollection of ever having swallowed a pin.

I am indebted to Dr. Joseph H. Balfe, the medical superintendent, for permission to publish the case.

Durban.

Medical Societies.

CLINICAL SOCIETY OF LONDON.

Presidential Address: Discussion on Adolescent (late) Rickets.

A MEETING of this society was held on Oct. 12th, Mr. H. H. CLUTTON, the President, being in the chair.

The PRESIDENT, after a few words of welcome at the opening of the new session, delivered an address on the subject of Adolescent (late) Rickets, illustrated by lantern slides, radiograms (prepared by Dr. A. H. Greg), and post-mortem specimens from the Royal College of Surgeons of England and the Hospital for Sick Children. It had long been believed, he said, that all the signs of rickets as seen in infancy might appear in adolescence but it was not until the advent of the x rays that conclusive evidence had been furnished. Coxa vara and genu valgum were no doubt related to adolescent rickets, though the epiphyses did not show quite the same changes. The first case brought forward was that of a man who was 21 years of age when he came under observation nearly three years ago. The ends of the long bones were enlarged and he presented considerable deformity of the legs. His history showed that at the age of 12 years he had had to wear steel supports for genu valgum; that osteotomy was done for both knees at the age of 16 years, and that the present curvature of the lower limbs began to appear at the age of 19 years. The most striking part of this deformity was a bending backwards of both knees. The skiagrams proved that the changes in the bones were of very long duration and had apparently commenced at the epiphyseal lines. In the shafts of the long bones adjoining the epiphyses there were much less cortex than normal and a large and translucent medulla; it was at this part that the curvature of the bones, which was the cause of the bending backward of the knees, had taken place. The diagnosis of rickets was also established by the changes in the wrists. The lower epiphyses of the radius and ulna were shown by means of the x rays to be in the active stage of rickets. Almost all the long bones showed changes at the ends of the diaphyses adjoining the epiphyses and the changes in the latter exactly resembled those of the rickets of infancy. In this case the bony changes had apparently commenced as usual about the age of 12 years and reached their maximum about the age of 19 years. Two other cases were shown and illustrated by means of skiagrams. The patients were aged 12 and 14 years respectively and the disease in them had arisen quite recently and was limited to the epiphyses. The contrast between the younger patients and the older one whose disease had been in existence for many years was interesting. In the child aged 14 years, double osteotomy had been performed for genu valgum in 1905 but it was not until nearly a year later that the wrist-joints had become swollen. In late rickets it sometimes happened that some of the bones were affected at a considerable interval before the others. Discussing the etiology, the President remarked that the disease was undoubtedly identical with infantile rickets though modified by the age of the patient. A favourite age for the development of adolescent rickets was between 12 and 14 years when a great educational strain was thrown upon the child. Diet did not seem to have much influence. In regard to treatment, there were no special indications beyond diet and fresh air. In the first patient thyroid extract had been administered but it was not certain that it had done any good. One case observed had died from tuberculosis.

Mr. E. MUIRHEAD LITTLE described a case of adolescent rickets occurring in a girl, aged 17 years, who was apparently quite well until the age of five years. When eight years old she broke both femora. She was small in stature and the sexual development was delayed. She died with cerebral symptoms. The bones showed typical rachitic changes; there was a wide epiphyseal line and the shafts were so soft that they could be easily cut with a chisel without the aid of a mallet.

Mr. R. CLEMENT LUCAS congratulated the President on his address, which revived a discussion that he (Mr. Lucas) had instituted in 1883. He referred to a paper published at that time in THE LANCET.[1] He had observed several cases of late rickets in youths associated with intermittent albuminuria and he believed that there was some causal relation between these two conditions. The onset of puberty appeared to have a determining effect on both of these morbid conditions.

Mr. RICKMAN J. GODLEE asked whether there were any cases of late rickets on record arising in well-grown persons. If not, this fact suggested that adolescent rickets was really a recrudescence of the disease which had arisen, and perhaps had been overlooked, in early life.

Dr. F. PARKES WEBER suggested that cases of late rickets should be investigated from the point of view of albuminuria. Calcium salts cured most cases of cyclic albuminuria, though they did not appear to have much influence on rickets.

Mr. R. C. ELMSLIE exhibited two cases of adolescent rickets. He could not help thinking that the occurrence of adolescent rickets as a special disorder was not proven. To prove that a child had never previously had rickets was most difficult, the history being very untrustworthy. In a large number of children he had found distinct evidences of previous rickets in over 50 per cent., whilst in only 1 per cent. was the previous existence of the condition known to the mother. The clinical signs of rickets in these cases had nearly always disappeared by the age of eight years, excepting the stunted growth of the skeleton and the head changes. Now, in all cases of adolescent, or as he preferred to call it recrudescent, rickets, the two most notable features were (1) the diminutive size of the patient, and (2) the shape of the head, and particularly the height of the forehead. These facts favoured the view that adolescent or late rickets was in reality a continuation or recrudescence of rickets arising in infancy. In regard to etiology he could not favour the nervous origin; possibly it was dietetic, but it was interesting to note that the onset of late rickets coincided with the periods of most active growth in stature—namely, between the ages of eight and ten and 13 and 17 years.

Dr. ROBERT HUTCHISON, Dr. G. A. SUTHERLAND, and Dr. J. A. COUTTS also exhibited cases of adolescent rickets.

The PRESIDENT, in reply, remarked that albuminuria had not been present in any of his cases and in some of them calcium salts had been tried without effect on the disease. He quite agreed with the view that late rickets might be a recrudescence of the disease arising in early life. But at the same time he was of opinion that the malady might arise *ab initio* at any age during adolescence.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.—The annual meeting of this society was held on Oct 12th, when Dr. D. S. Davies of Bristol was installed as President by his predecessor, Sir Shirley F. Murphy.—Dr. George Newman in opening a discussion upon Food Inspection said that there were three reasons for the administrative control and inspection of food: first, to maintain a standard of food of the proper nature and quality; secondly, to protect the consumer from eating food which had in it the potentiality to produce disease; and, lastly, because it was essential to a healthy physical life that the food consumed should be both nutritious and palatable. The be-all and end-all of administrative control and inspection should be to secure for the community a pure food-supply and its contribution in this direction had been very considerable, not only in its influence upon the food industry but educationally upon the public taste and standard of suitability of food. As regards meat, the essentials were vigilant and skilled inspection; public slaughter-houses and the gradual extinction of private slaughter-houses; and a rigid system of marking and stamping all inspected meat, home or foreign, which was fit for consumption. No inspection could be considered complete short of an inspection of the animal while alive and an examination after slaughter of the whole carcass and all the organs. The qualifications of the inspector should be those suggested by Dr. W. Collingridge—namely, practical training as a butcher, a fair standard of general education, the meat certificate of the Royal Sanitary Institute, and the sanitary inspectors' certificate of one of the examining boards. The inspectors appointed for the special purposes of meat inspection should certainly have had a training as practical butchers. As soon after seizure as practicable diseased meat should be carefully examined by the medical officer of health and full notes as to its pathological condition taken by him at the time of his examination. This examination should include the carcass, the organs if available, the mode of dressing, and external circumstances such as price, exposure for sale, and the source of the meat. Opportunity should be given to the vendor to see the meat or to have an expert to see it on his behalf before it was submitted to the magistrate for condemnation. The recommendations of Sir Shirley Murphy should be carried out. These included more thorough inspection, accompanied by marking, and the provision in London of a small number of meat inspection stations for the examination by properly qualified officers of meat sent up from the country or imported so that some control would be obtained over the character of foreign meat and some check on foreign inspection. In view of the enormous increase in the foreign trade the time had come when foreign meat imported into this country should be required to comply absolutely with English standards. The only effective administrative control of foods which were tinned or prepared for sale was by a system of inspection at the time of manufacture. This inspection should be concerned with the quality and condition of the original constituents of the prepared food, with the manner of its preparation, and with the premises where it is prepared. All these foods, whether imported or home produced, should bear a distinctive mark or stamp that they had been produced under conditions which had been inspected and were under control. The general policy of protecting the sources of bread, water, butter, and other articles should now be applied to meat, milk, and shell-fish, and in this, as in other respects, sanitary authorities should endeavour to administrate uniformly. The reform should proceed by gradations, should seek not to discourage but wisely to control these important industries, and should attempt to increase rather than to decrease the responsibility of the trade for the production and sale of wholesome food. Milk-supplies, like water-supplies, needed control at the source and to this end there should be a veterinary and medical service inspection of all cows yielding milk, thorough sanitation and cleanliness in cowsheds and dairies, and the annual licensing of all milk sellers. In conclusion, Dr. Newman considered that the present position of administrative control of food in the United Kingdom led to the conclusion that much remained to be done, not only in the interests of public health but also in the best interests of the great food industries involved, and that the main principle to be adopted should be control at the source. —Dr. Collingridge agreed with Dr. Newman as to the value of the inspection of food-supplies from the point of view of nutrition and not so much of infection, for the influence of food in the conveyance of specific diseases was probably exaggerated, while its influence upon the general health and stamina of the people was certainly underestimated. He referred to the difficulty in obtaining sufficiently trained inspectors, due in great measure to the insufficient remuneration offered.—Professor Henry R. Kenwood advocated the sterilisation of milk.—Sir Shirley Murphy thought that English butchers and farmers were very short-sighted in opposing public slaughter-houses where home-grown meat could be inspected and stamped. It was bad policy on their part to leave it now practically to the housekeeper to decide which was home-grown and which was foreign meat.—Dr. E. Walford said that in Cardiff there were no private slaughter-houses and a veterinary surgeon with six assistants acted under the medical officer of health as meat inspector. This arrangement was so much appreciated by the butchers that when a vacancy occurred they asked the corporation to appoint an inspector with a veterinary qualification.—Dr. J. T C. Nash referred to the contamination of shell-fish and said that there was very little water on the English coast where bacillus coli communis could not be found, but he thought that it would be fairly safe to lay down a rule that shell-fish should not be cultivated within at least a mile of the shore.—Mr. S. Rideal, D.Sc., said that in the protection of water-supplies and of milk at their source they had not been particularly successful and they must teach the consumer to take proper precautions. He thought that danger would be more likely to arise in the consumer's house than at the source.—Dr. F. E. Fremantle pointed out the enormous cost entailed in efficient inspection and thought that it was well worth considering whether this cost should not be borne by the consuming community rather than the producing.—The President was of opinion that they should aim at inspection at the source of supply and should not allow bad meat to come into our towns and then seek to render it innocuous by cooking or other means.

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[1] THE LANCET, June 9th, 1883, p. 993.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on Oct. 8th, Dr. J. Lindsay Steven, the President, being in the chair.—Dr. T. K. Monro and Dr. James A. Adams showed a patient suffering from Spasm of the Muscles of the Lower Part of the Trunk and Thighs. The patient was a bank clerk, aged 46 years, who began to feel nervous about three years ago and to have pains in his back. Even earlier than this his back would get stiff on sitting much, but in other respects he was quite healthy. His symptoms progressed during the first few months, but since then they seemed not to have advanced further, though they had repeatedly relapsed after improving temporarily under treatment. He got relief for a time from one sedative after another but each soon lost its effect. He could suggest no cause for his illness and the family history threw no light upon it. He was on his feet for seven hours daily when at his work but was not confined to one spot. Attempts to move and any kind of excitement brought on the spasm and if he persisted in attempts at movement the condition of the muscles did not improve. There was complete relaxation during sleep, the knee-jerks were present, and the sensation was normal. Dr. Monro could find no account of any exactly similar case in the literature and was inclined to regard the condition as an occupation neurosis analogous to writer's cramp, and the overwork of the muscles in this case was explained by the constant standing. —Dr. A. Freeland Fergus and Dr. A. L. McMillan gave a demonstration on the Removal of the Lacrymal Sac in cases of Chronic Suppuration. The cases in which the operation had been performed were shown.—Dr. Alexander Napier and Dr J Anderson related the history of a case of Tumour involving the lung, the pleura, and the mediastinum, and microscopical preparations of the same were shown. The patient, a young woman, aged 24 years, was admitted 18 months ago to hospital as a case of chronic pleurisy. About six weeks before her admission she suffered from pain in the right side of the chest aggravated by lying on that side and by coughing and had suffered from loss of flesh and strength and occasionally from night sweats. The family history indicated a tuberculous tendency. The signs of a right-sided pleurisy with effusion were made out and a small quantity of fluid was removed by aspiration; this fluid contained mononuclear lymphocytes, eosinophiles, and pleural endothelial cells, and a number of diplococci but no tubercle bacilli. The patient was dismissed improved but 15 months later was readmitted on account of a short dry cough, often paroxysmal in character, with progressive loss of strength and weight, symptoms which had troubled her during the greater part of the interval. Physical examination indicated a thickening of the pleura over the lower part of the right lung and the case was regarded as tuberculous in nature, but tubercle bacilli were never obtained in the sputum although frequently examined for. A fortnight after admission she was seized with an acute pericarditis from which she recovered but later developed marked dulness with loss of respiratory murmur, vocal fremitus, and vocal resonance on the affected side, and an exploring needle was inserted at several places but no fluid was obtained. Cyanosis, breathlessness, and venous distension in the neck ensued and these got gradually worse up to the time of her death. At the necropsy the conditions found were an adherent pericardium, heart displaced by the consolidated lung, and a tumour of the size of an orange on the anterior mediastinum; the glands in the posterior mediastinum and around the right bronchus showed malignant enlargement. The greater part of the right lung was replaced by tumour tissue and this had penetrated the diaphragm and given rise to a large growth in the upper part of the right lobe of the liver. The pleura was much thickened. The microscopic appearances of the tumour showed a very dense growth composed of spindle-shaped cells with alveolar disposition and large elongated nuclei resembling a spindle-celled sarcoma but probably of the nature of a pleural endothelioma.

SOUTH-WEST LONDON MEDICAL SOCIETY.—The first monthly meeting of the winter session of this society was held at the Bolingbroke Hospital on Oct. 10th, Dr. M. Mackintosh, the President, being in the chair.—An address was given by Dr. J. H. Wells on the Treatment of Bacterial Diseases by the Inoculation of the Corresponding Vaccines. After an introduction, in which the distinction between serums and vaccines was explained and attention was drawn to the various forms of antibacterial substances in the blood, Dr. Wells described the mode of action of opsonins and gave in detail the methods adopted for estimating the opsonic index. The clinical applications and diagnostic value were discussed, the need for a control and the sources of error were pointed out, and the manner in which errors might be avoided was suggested. Drawing his illustrations chiefly from tuberculosis, Dr. Wells presented charts showing that in localised lesions with a high opsonic index, active or passive movement was followed by a fall in the index for the particular organism while that of the control organism remained unaltered. The methods of preparation and standardisation of vaccines were gone into and the various clinical conditions in which the treatment was applicable were discussed. Dr. Wells also showed charts to illustrate the positive and negative phases and the dangers attendant upon re-inoculation during the negative phase which invariably succeeded inoculation. Skiagrams were shown of tuberculous affections of joints at various stages of treatment in which improvement was clearly manifested. A strong caution was given against large doses of vaccine in the early stages of treatment and the importance of rest in bed and under observation during the treatment of pulmonary tuberculosis and of severe cases was emphasised. The question of auto-inoculation was discussed, Dr. Wells pointing out that a high opsonic index might be obtained in cases with large lesions and interpreted this as meaning that a strong effort was being made by the system to cope with the disease, noting also the fact that the occurrence of high or low indices of positive or negative phases coincided with the patient's sense of physical well-being or the opposite. Having pointed out that in the case of mixed infections it was possible to treat each component infection separately and successively, he concluded with a few remarks on the results to be obtained. In small single lesions and in some multiple ones great improvement might be expected; in more severe cases, as where caseation or necrosis had taken place, the treatment could not be expected to do more than place the parts in the best condition for surgical interference; in more extensive lesions it was probable that the beneficial effect might be limited to enveloping the damaged area with a fibrous covering. As an addition to the sanatorium treatment of consumption it had proved most beneficial, especially in early cases; while the results in septicæmia had not yet been uniformly successful. Dr. Wells subsequently demonstrated parts of the opsonic technique and showed microscopic slides of phagocytic action on tubercle bacilli, streptococci, and other organisms.—In the discussion which followed a question was asked and answered to the effect that there was nothing in the treatment or the diagnostic technique which could not be carried out by the general practitioner, and some severe comments were made on the action of a metropolitan hospital in instituting a "pay" department for opsonic treatment. The interest of the profession in the subject was shown by an unusually large attendance of members.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND: NORTHERN AND MIDLAND DIVISION.—A meeting of this association was held at the David Lewis Colony, Sandle Bridge, near Manchester, on Oct. 11th, Dr. Alan McDougall, the medical director of the colony, presiding.—Dr. Ernest S. Reynolds (Manchester) read a paper on Obsessions and Imperative Ideas. He mentioned the simple examples found in everyday life, such as the idea that the gas tap has not been turned off. In the shape of fixed delusions compelling to some action obsessions were common in the insane, but he specially alluded to those occurring in purely neurotic patients and related short accounts of such cases which could be classified as: (1) instances of over-caution often combined with the insanity of doubt; (2) those occurring in hypochondriasis such as syphiliphobia; (3) some of the fears of neurasthenia; and (4) those impelling to homicide or suicide. —Dr. McDougall read a paper on the Etiology of the Epileptic. He considered that several of the unpleasant characteristics of the epileptic were the result of treatment, not symptoms of the disease. He urged that treatment should not be directed solely, or even principally, against fits but that the chief aim should be to keep the patient, in spite of his fits, as much like his neighbours as possible. He ascribed the benefit of colony treatment to the fact that at a colony the epileptic could regard himself as a normal member of the community in which he lived.—A discussion on the Alleged Increase of Insanity was opened by Dr. J. Milson Rhodes (Manchester). He said that the increase in the number of certified patients reported by the Commissioners in Lunacy had created considerable alarm, but this increase did not prove that there was any increase in insanity. Similarly the returns from fever hospitals showed an increase in the number of patients, but no one talked about the enormous increase of infectious disease because the admissions were ten times as great as they were 20 years ago. He considered that this was not an increase in the actual number of fever cases but merely a rapid increase in the number sent to hospitals, due to the greater confidence in the fever hospitals, and that similar considerations affected the admissions into lunatic asylums. He also showed that there was actually a decline in the death-rate from nervous diseases. An increasing number of aged persons had also been certified as insane in recent years. Another cause of the increase in numbers was the enlarged area of the gathering ground, as there were now sent to the public asylums a large proportion of patients coming from the middle classes; and lastly, the changed ideas as to what constituted certifiable insanity had greatly added to the number of persons certified. At one time the question whether or not the patient was dangerous to himself or others decided the course taken, but now to a very much larger extent the benefit of the patient was the primary consideration. In spite of these facts he was glad to say that the ratio of first admissions, which was the true test, had fallen from 5·76 to 5·21 during the past four years, and he concluded by expressing the opinion that with improved sanitation and morals there would be not only a physical but also a mental improvement of the people.—In the discussion which followed there was a general expression of concurrence with the views expressed by Dr. Rhodes.—During the forenoon members had an opportunity of inspecting the premises and seeing the most recent methods adopted for the care and treatment of epileptics.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on Oct. 11th, Mr Frank T. Paul, the President, being in the chair.—The President delivered an address on the Importance of the Earliest Possible Recognition of Malignancy in Tumours. He drew special attention to the diagnostic value of the microscope and said that in dealing with new growths two mistakes were frequently made, either of which was sufficient to bring about a failure in treatment; one was waiting in the early and doubtful stages until malignancy was declared and the other was throwing the responsibility of the diagnosis on a pathologist who had never seen the case and had only a shred of tissue on which to base his opinion. Histology alone was not sufficient in difficult cases; either the clinician should be better trained in histology or the pathologist should become a clinical pathologist. In spite of all that had been done by the brilliant band of workers in cancer research, up to the present time early and complete removal had proved the only trustworthy treatment. Recurrence generally meant that the removal of the disease had been incomplete, but there were some patients in whom the tendency to cancer was so inveterate that the successful treatment of one growth might be followed by the development of another of a different type. Discussing epithelioma of the tongue the President said that he associated himself with Mr. H. T. Butlin in believing that it was curable under favourable conditions. The difficulty generally lay in the differential diagnosis of epithelioma, papilloma, and simple and tuberculous ulcer. Epithelioma often began in a syphilitic sore of the tongue and it was to be feared that many lives were lost owing to the delay caused by the six weeks' specific treatment which it was usually thought necessary to prescribe, while the microscope would often reveal in a specific or apparently simple ulcer a small centre of malignant disease. Butlin's radical operation was not too extensive for the smallest epithelioma of the tongue. Solitary tuberculous ulcers of the tongue or lips might occur in apparently healthy subjects and without microscopical examination might be mistaken for epithelioma. Papillomata should be invariably removed and if found to be undergoing malignant changes an extensive dissection should be performed, although the papillomatous form of cancer, because of its outward growth, was much less malignant than the ulcerous variety. Speaking of malignant disease of the maxillary antrum, the President said that his note-books showed that 20 or 30 years ago sarcoma was more common than carcinoma; he thought that carcinoma was attacking younger people while sarcoma was diminishing in frequency. He then discussed the varieties of fibromata, malignant and benign, skin tumours, implantation cysts, and rodent ulcers. The last disease was a true cancer of the sebaceous glands, was often multiple (two varieties of cancer never flourished at the same time in the same subject), and contrary to the statement often made it did infect the lymphatic glands. Malignant diseases of the bladder and of the breast were then discussed, the President's well-known views on the pathology of the latter being restated, and the importance of early microscopical examination in doubtful cases of disease of either organ being insisted upon. The address was illustrated by 71 lantern slides taken from microphotographs.

HARVEIAN SOCIETY.—A meeting of this society was held on Oct. 11th, at the Stafford Rooms, Titchborne-street, W., Dr. F. William Cock being in the chair.—Dr. Alexander Morison read a paper on the Cardio-vascular State in Asphyxia Neonatorum and its Management. He adopted the usual classification of these cases into the cyanotic and pale varieties, regarding the latter as a more advanced stage of the former, and proceeded to discuss the underlying physiological and pathological conditions in the two varieties. In discussing prognosis he regarded the condition of cardiac action as the best guide to a forecast and stated that asphyxia in these circumstances represented the etymological origin of this term—namely, pulselessness—the prognosis being favourable in proportion to the vigour of cardiac action. In considering treatment he discussed the question of dividing or not dividing the funis immediately after the birth of the child and stated that only in the cyanotic variety was it advisable to allow the funis to bleed for a short time.—Dr. O. J. N. Longridge stated that at Queen Charlotte's Hospital they considered that the "blue" baby and the "white" baby resulted from totally different conditions. The former was the result of asphyxia and the proper treatment was to clear out the pharynx and perform artificial respiration. The latter was due to shock and pulsation in the cord was usually absent. The proper treatment was a hot bath, gentle stimulation, and massage of the heart. Artificial respiration was unsuitable.—Mr. Herbert T. Herring then read a paper on Easy Methods of Sterilising Urethral Instruments, giving a practical demonstration of the methods. He had devised a method of sterilisation of catheters by which both the catheter and the lubricant were sterilised and little manipulation of the catheter by the operator was required. The catheter or series of catheters were suspended from hooks in a cylindrical metal vessel containing water and a small quantity of vaseline. The water was then brought to the boiling point by a spirit lamp underneath, the catheter was sterilised, and when withdrawn it was coated with a thin layer of sterilised vaseline. If catheters were wanted some time after sterilisation they could be placed separately in glass tubes and sterilised in the same way, each glass tube being corked with a sterilised rubber plug after withdrawal from the steriliser.—Mr. Raymond Johnson had found the method of boiling water and oil in a test tube for sterilisation and lubrication of a catheter efficient but the boiling oil tended to roughen the catheter.—Mr. P. L. Daniel had also used this method but had much greater success with Mr. Herring's steriliser which he had used for some time. He had not had an instance of cystitis after this method of catheterisation.

British Gynæcological Society.—A meeting of this society was held on Oct. 11th, Mr. F. B. Jessett, the President, being in the chair.—Dr. H. Overy (for Dr. H. Macnaughton-Jones) exhibited a specimen of a Uterus with a Fibroid undergoing Necrobiosis and read notes of the case. The tumour was accidentally discovered by the patient herself who only complained of distended abdomen and slight dysuria. The tumour reached the umbilicus and extended to the left side. She made a good recovery from the operation.—Dr. J. H. Dauber exhibited a specimen of Necrobiotic Fibroid removed from a single patient, aged 40 years, who suffered acute pain for two years. Three weeks previously she had an attack of acute pain while stooping over her housework. The temperature was 101° F., with symptoms of subacute peritonitis and there was a tumour which extended several inches above the umbilicus. On opening the abdomen the tumour was found attached to the fundus of the uterus with a twisted pedicle. Many intestinal adhesions were found which readily separated and the tumour was removed after tying off the pedicle. The uterus contained two or three fibroids and was removed by supravaginal hysterectomy. The tumour was offensive and contained dark grumous fluid.—The President exhibited some specimens, among which were (1) a specimen of Multiple Pedunculated Fibroids undergoing Calcareous Degeneration removed by cœliotomy and enucleation. On opening the abdomen four hard tumours of different sizes were enucleated from the uterus, causing but little hæmorrhage which was arrested by deep catgut sutures. The patient made an uninterrupted recovery. 2. Notes of a case of Large Abscess in the Pouch of Douglas simulating a suppurating ovarian cyst and causing obstruction of the bowels. The patient, aged 46 years, with eight children, complained of frequent micturition for one month previously to seeking advice. Her present illness began five weeks previously with abdominal pain and vomiting. There were pyrexia and constipation. The abdomen was distended below the umbilicus and considerable rigidity was present. On bimanual examination the pouch of Douglas was found to be occupied by a tense non-fluctuating swelling without much pain. On opening the abdomen the intestines were matted together and extensive peritonitis was found. While separating a coil of intestine over the brim of the pelvis some foul-smelling pus welled up. The patient was then put in the lithotomy position, the posterior fornix was opened, and a gauze drain was inserted. She made a slow recovery and one month afterwards was free from any discharge.

Glasgow Medico-Chirurgical Society.—A meeting of this society was held on Oct. 5th, Dr. J. Lindsay Steven, the President, being in the chair.—The President and Dr. O. Workman showed specimens from a case of Cancer of the Œsophagus. They said that the patient began to suffer about a year ago from dysphagia which became urgent three months ago and subsequently became absolute. Any fluid swallowed was returned after about 30 seconds. A bougie was obstructed ten inches from the teeth and its passage caused him to bring up an ounce of caseous material suggesting ulceration. Examination of the abdomen was negative. On the day after admission to hospital a consolidation at the base of the left lung was detected. The temperature was subfebrile. The pulmonary complication contraindicated operation. During the patient's residence in hospital feeding was entirely per rectum. Pain was absent. Post-mortem examination revealed consolidation (insufflation pneumonia) of the lower lobe of the left lung with a gangrenous abscess. In the œsophagus, opposite the bifurcation of the trachea, there was a large fungating ulcer with two openings perforating into the left bronchus. No secondary growths were found. Sections showed the ulcer to be an irregularly squamous-celled epithelioma.—Dr. G. T. Beatson read a paper on Chauffeur's Fracture, illustrated by two cases. He said that this fracture was usually caused by "back-firing," when the chauffeur was turning the handle at the front of the car, especially if he was holding it with his knuckles up and his thumb round the shaft, as in this position the hand could not be quickly disengaged. The hand was bent forcibly backwards while it had a degree of ulnar deflection and the lower end of the radius was fractured. The line of fracture (illustrated by x ray photographs) was transverse and fairly regular and carried off the whole articular surface of the radius; or it might pass into the joint. The fractured end in each case was triangular and included the styloid process. The symptoms were pain, swelling, and crepitus, but there might be no distinctive deformity as in Colles's fracture. Both cases were treated with Carr's splints, with early movement of the fingers. The splints were removed in three weeks and practically no stiffness resulted. Dr. Beatson thought that such cases might be classified as Colles's fracture without deformity and ought to make surgeons careful not to exclude fracture on account of the absence of deformity. The fracture might be prevented by grasping the handle with the knuckles down.

Dermatological Society of London.—A meeting of this society was held on Oct. 10th, Dr. J. J. Pringle being in the chair.—Dr. H. G. Adamson showed a case of Lichen Spinulosus in a young child, the eruption covering the arms, the legs, and the face. The disease had commenced with an erythema. The eruption was not grouped in the way in which ordinary lichen spinulosus usually was and Dr. Adamson thought it was an instance of the disease which H G. Brooke had named keratosis follicularis contagiosa, although in this case there was no history of contagion.—Dr. T. Colcott Fox showed a case of a Granulomatous-looking Tumour of the Back of the Hand in a man who was a horsekeeper by occupation. The diagnosis was not quite established and a portion of the tumour would now be excised and examined histologically and the result communicated at a future meeting.—Dr. Wilfrid S. Fox showed two cases of Sclerodermia.—Dr. J. M. H. Macleod showed a case of what was probably Lupus Erythematosus of the Face and Neck of a woman with concurrent small nodules on the hands and on the legs large and deep infiltrations which clinically resembled erythema induratum.—Dr. J. A. Ormerod showed a case for diagnosis, the patient being a girl, aged 12 years, in good health, but showing an eruption upon the back, the shoulder, and the chest and consisting of small follicular ulcers, which were scabbed over, and pitted scars. The lesions were grouped in a somewhat herpetiform manner, chiefly on the right side of the body. During her attendance she had had an intercurrent attack of genuine herpes on the left side of the chest. Many suggestions were made, including such diagnoses as morphœa, acne varioliformis, and Darier's disease, but it was agreed that no diagnosis could be positive without further investigation, especially as to the histological nature of the lesions.

Glasgow Southern Medical Society.—A meeting of this society was held on Oct. 4th when Dr. T. K. Monro delivered the presidential address, choosing for his subject "Some Family Diseases." After remarking that old age was in reality a rare form of death, Dr. Monro showed that in some individuals certain organs underwent decay long before the usual degenerative period of life was reached and even in some cases before the body as a whole had reached maturity. Such conditions were likely to occur in several members of a family. Among such diseases were muscular dystrophy, spastic diplegia, amaurotic family idiocy, Friedreich's disease, retinitis pigmentosa, and xeroderma pigmentosa. Diabetes might be met with as a family disease and reference was made to a family in which five of its members died from this disease in childhood. Gout, pentosuria, cystinuria, and alkaptonuria were also touched upon as frequently occurring in families. It was pointed out that some of the diseases described might be compared to the variations or sports met with among animals and plants. As to the origin of these variations practically nothing was known.—The following office-bearers of the society have been elected for the session 1906-07. Honorary President: Dr. J. Barras. President: Dr. T. K. Monro. Vice-Presidents: Dr. T. Forrest and Dr. J. Grant Andrew. Treasurer: Dr. J. A. Aitken. General secretary: Dr. J. P. Duncan. Editorial secretary: Dr. R. N. Dunlop. Seal keeper: Dr. R. W. Forrest.

Reviews and Notices of Books.

Second Annual Report of the Henry Phipps Institute for the Study, Treatment, and Prevention of Tuberculosis. Philadelphia: Published by the Henry Phipps Institute. 1906.

THE second year's work of the Henry Phipps Institute, like the first, was carried on in temporary quarters and under difficulties. Nevertheless, the credit for the very valuable report is thereby increased. Dr. L. F. Flick, the medical director, has supplied elaborate statistics in regard to the nationality of the patients and the conditions under which they had lived prior to coming under observation. An analysis of the figures clearly shows the part which domestic surroundings and occupations play in the implantation and development of tuberculosis. House-work, milling, factory work, cigar making, nail cutting, sewing, shoemaking, tailoring, waiting, and weaving supply the vast majority of the cases. A few employments carried on out of doors also show a high morbidity, notably labourers and drivers of vehicles. These occupations are of a low grade with poor wages, and consequently an undesirable mode of living; doubtless these facts explain why so many following these employments become affected with tuberculosis. Taking the figures as a whole there is a close association between the incidence of tuberculosis and indoor life, hardship, and want. In concluding his report Dr. Flick makes some apposite remarks on the results of hospital and dispensary treatment. He points out the difficulties that exist in helping the patients to find suitable occupation and in enabling them to live a life on truly hygienic lines. But at the same time he rightly insists on a further benefit which follows from instruction of the patients—namely, the educational value which results from the injunctions which have been given to them. Treatment of these poor people and prolongation of their lives give an opportunity to teach not only those who have the disease but also those about them methods by which the spread of the disease may be avoided. We have frequently laid stress on the value of fully educating the public as to the measures to be adopted to prevent the dissemination of the disease, and one of the most valuable fruits of this labour is in the saving of those who are still in health. The benefit of the work, as Dr. Flick points out, is cumulative. With every abatement of a source of infection the opportunities for new implantations grow less. Every year there are fewer foci to supervise and the facilities for the control of existing foci become better.

One of the most interesting features of this report is the insertion of several papers on tuberculosis affecting the various systems of the body as gathered from the cases and necropsies recorded during the year. Dr. D. J. McCarthy describes certain lesions of the nervous system which were observed, whilst Dr. Horace Carncross dwells on the mental attitude in tuberculosis. He states that the impression which he gained after a series of inquiries from the patients themselves as to their mental state was that the greater number were more or less depressed, though they still retained the hope of improvement or cure—that the state of "spes phthisica" he found rare, and in those in whom it was marked further questions elicited the fact that these individuals had always been blessed with a buoyancy or a sense of well-being that was well-nigh impregnable.

Dr. Joseph Walsh's article on the kidneys in tuberculosis is also worthy of study. He summarises the results of his investigations at the Henry Phipps Institute as follows: (1) positive tubercles were found in the kidneys in 53 per cent. of cases; (2) every form of nephritis was found except glomerulo-nephritis, the most common form being parenchymatous nephritis; and (3) the other most common abnormalities found were fibrous and cellular areas under the capsule which possibly represented healing or healed tubercles. These results correspond with those of other observers. Dr. J. T. Ullom, in studying the condition of the liver in tuberculosis, found that tuberculous disease of the liver existed in a large percentage of cases dying from pulmonary tuberculosis, but that its clinical recognition was only rarely, if ever, possible.

During the first year of the Henry Phipps Institute a course of lectures was given as part of the institute's educational work by men from various parts of the world. One of the lectures was by Professor E. Maragliano of Italy. A the claim made by this observer had a most important bearing upon the crusade against tuberculosis in the interest of which the institute was founded, Dr. M. P. Ravenel was sent to Professor Maragliano's laboratory to study his work and to learn his methods. Dr. L. Pearson was likewise sent to Europe to study immunisation work in animals. Their reports appear in the volume now before us and form interesting reading. In the institution further work is being carried out in serum-therapy. As yet no definite conclusions have been arrived at but from time to time the results will be reported.

We congratulate the authorities of the institute on the excellent work which is being accomplished under their auspices. The treatment and prophylaxis of tuberculosis will doubtless be considerably furthered by the patient and thorough investigations which are being carried out in the various departments.

The Operative Treatment of Prolapse and Retroversion of the Uterus. By J. INGLIS PARSONS, M.D. Durh., M.R.C.P. Lond., Physician to the Chelsea Hospital for Women. London: John Bale, Sons, and Danielsson. 1906. Pp. 90. Price 3s. 6d. net.

THE large number of operations which have been devised by different surgeons for the purpose of dealing with cases of prolapse of the uterus shows how inefficient many of these operations in reality are. Dr. Parsons has introduced a means of treating cases of prolapse of the first degree with rupture of the perineum by the injection of a solution of quinine into the base of the broad ligament with the view of producing an effusion of lymph which may subsequently become converted into new fibrous tissue. The operation is a simple and an easy one and apparently gives good results. The solution of the strength of 1 in 5 is injected by means of a special syringe into the base of the broad ligament, 60 minims being used for the left side and 70 minims for the right side. The difference in the amount required depends on the fact that there is less space owing to the presence of the rectum between the layers of the left broad ligament than between those of the right side. The operation takes but a few minutes, can be done without an anæsthetic, although the author prefers to have the patient that at Queen Charlotte's Hospital they considered that the "blue" baby and the "white" baby resulted from totally different conditions. The former was the result of asphyxia and the proper treatment was to clear out the pharynx and perform artificial respiration. The latter was due to shock and pulsation in the cord was usually absent. The proper treatment was a hot bath, gentle stimulation, and massage of the heart. Artificial respiration was unsuitable.—Mr. Herbert T. Herring then read a paper on Easy Methods of Sterilising Urethral Instruments, giving a practical demonstration of the methods. He had devised a method of sterilisation of catheters by which both the catheter and the lubricant were sterilised and little manipulation of the catheter by the operator was required. The catheter or series of catheters were suspended from hooks in a cylindrical metal vessel containing water and a small quantity of vaseline. The water was then brought to the boiling point by a spirit lamp underneath, the catheter was sterilised, and when withdrawn it was coated with a thin layer of sterilised vaseline. If catheters were wanted some time after sterilisation they could be placed separately in glass tubes and sterilised in the same way, each glass tube being corked with a sterilised rubber plug after withdrawal from the steriliser.—Mr. Raymond Johnson had found the method of boiling water and oil in a test tube for sterilisation and lubrication of a catheter efficient but the boiling oil tended to roughen the catheter.—Mr. P. L. Daniel had also used this method but had much greater success with Mr. Herring's steriliser which he had used for some time. He had not had an instance of cystitis after this method of catheterisation.

British Gynæcological Society.—A meeting of this society was held on Oct. 11th, Mr. F. B. Jessett, the President, being in the chair.—Dr. H. Overy (for Dr. H. Macnaughton-Jones) exhibited a specimen of a Uterus with a Fibroid undergoing Necrobiosis and read notes of the case. The tumour was accidentally discovered by the patient herself who only complained of distended abdomen and slight dysuria. The tumour reached the umbilicus and extended to the left side. She made a good recovery from the operation.—Dr. J. H. Dauber exhibited a specimen of Necrobiotic Fibroid removed from a single patient, aged 40 years, who suffered acute pain for two years. Three weeks previously she had an attack of acute pain while stooping over her housework. The temperature was 101° F., with symptoms of subacute peritonitis and there was a tumour which extended several inches above the umbilicus. On opening the abdomen the tumour was found attached to the fundus of the uterus with a twisted pedicle. Many intestinal adhesions were found which readily separated and the tumour was removed after tying off the pedicle. The uterus contained two or three fibroids and was removed by supravaginal hysterectomy. The tumour was offensive and contained dark grumous fluid.—The President exhibited some specimens, among which were (1) a specimen of Multiple Pedunculated Fibroids undergoing Calcareous Degeneration removed by cœliotomy and enucleation. On opening the abdomen four hard tumours of different sizes were enucleated from the uterus, causing but little hæmorrhage which was arrested by deep catgut sutures. The patient made an uninterrupted recovery. 2. Notes of a case of Large Abscess in the Pouch of Douglas simulating a suppurating ovarian cyst and causing obstruction of the bowels. The patient, aged 46 years, with eight children, complained of frequent micturition for one month previously to seeking advice. Her present illness began five weeks previously with abdominal pain and vomiting. There were pyrexia and constipation. The abdomen was distended below the umbilicus and considerable rigidity was present. On bimanual examination the pouch of Douglas was found to be occupied by a tense non-fluctuating swelling without much pain. On opening the abdomen the intestines were matted together and extensive peritonitis was found. While separating a coil of intestine over the brim of the pelvis some foul-smelling pus welled up. The patient was then put in the lithotomy position, the posterior fornix was opened, and a gauze drain was inserted. She made a slow recovery and one month afterwards was free from any discharge.

Glasgow Medico-Chirurgical Society.—A meeting of this society was held on Oct. 5th, Dr. J. Lindsay Steven, the President, being in the chair.—The President and Dr. C. Workman showed specimens from a case of Cancer of the Œsophagus. They said that the patient began to suffer about a year ago from dysphagia which became urgent three months ago and subsequently became absolute. Any fluid swallowed was returned after about 30 seconds. A bougie was obstructed ten inches from the teeth and its passage caused him to bring up an ounce of caseous material suggesting ulceration. Examination of the abdomen was negative. On the day after admission to hospital a consolidation at the base of the left lung was detected. The temperature was subfebrile. The pulmonary complication contra-indicated operation. During the patient's residence in hospital feeding was entirely per rectum. Pain was absent. Post-mortem examination revealed consolidation (insufflation pneumonia) of the lower lobe of the left lung with a gangrenous abscess. In the œsophagus, opposite the bifurcation of the trachea, there was a large fungating ulcer with two openings perforating into the left broncus. No secondary growths were found. Sections showed the ulcer to be an irregularly squamous-celled epithelioma.—Dr. G. T. Beatson read a paper on Chauffeur's Fracture, illustrated by two cases. He said that this fracture was usually caused by "back-firing," when the chauffeur was turning the handle at the front of the car, especially if he was holding it with his knuckles up and his thumb round the shaft, as in this position the hand could not be quickly disengaged. The hand was bent forcibly backwards while it had a degree of ulnar deflection and the lower end of the radius was fractured. The line of fracture (illustrated by x ray photographs) was transverse and fairly regular and carried off the whole articular surface of the radius; or it might pass into the joint. The fractured end in each case was triangular and included the styloid process. The symptoms were pain, swelling, and crepitus, but there might be no distinctive deformity as in Colles's fracture. Both cases were treated with Carr's splints, with early movement of the fingers. The splints were removed in three weeks and practically no stiffness resulted. Dr. Beatson thought that such cases might be classified as Colles's fracture without deformity and ought to make surgeons careful not to exclude fracture on account of the absence of deformity. The fracture might be prevented by grasping the handle with the knuckles down.

Dermatological Society of London.—A meeting of this society was held on Oct. 10th, Dr. J. J. Pringle being in the chair.—Dr. H. G. Adamson showed a case of Lichen Spinulosus in a young child, the eruption covering the arms, the legs, and the face. The disease had commenced with an erythema. The eruption was not grouped in the way in which ordinary lichen spinulosus usually was and Dr. Adamson thought it was an instance of the disease which H G. Brooke had named keratosis follicularis contagiosa, although in this case there was no history of contagion.—Dr. T. Colcott Fox showed a case of a Granulomatous-looking Tumour of the Back of the Hand in a man who was a horsekeeper by occupation. The diagnosis was not quite established and a portion of the tumour would now be excised and examined histologically and the result communicated at a future meeting.—Dr. Wilfrid S. Fox showed two cases of Sclerodermia.—Dr. J. M. H. Macleod showed a case of what was probably Lupus Erythematosus of the Face and Neck of a woman with concurrent small nodules on the hands and on the legs large and deep infiltrations which clinically resembled erythema induratum.—Dr. J. A. Ormerod showed a case for diagnosis, the patient being a girl, aged 12 years, in good health, but showing an eruption upon the back, the shoulder, and the chest and consisting of small follicular ulcers, which were scabbed over, and pitted scars. The lesions were grouped in a somewhat herpetiform manner, chiefly on the right side of the body. During her attendance she had had an intercurrent attack of genuine herpes on the left side of the chest. Many suggestions were made, including such diagnoses as morphœa, acne varioliformis, and Darier's disease, but it was agreed that no diagnosis could be positive without further investigation, especially as to the histological nature of the lesions.

Glasgow Southern Medical Society.—A meeting of this society was held on Oct. 4th when Dr. T. K. Monro delivered the presidential address, choosing for his subject "Some Family Diseases." After remarking that old age was in reality a rare form of death, Dr. Monro showed that in some individuals certain organs underwent decay long before the usual degenerative period of life was reached and even in some cases before the body as a whole had reached maturity. Such conditions were likely to occur in several members of a family. Among such diseases were muscular dystrophy, spastic diplegia, amaurotic family and added some figures; he has also introduced seven additional illustrations from Professor Marshall's "Vertebrate Embryology." The little book is intended to supply the student with a practical guide to the study of elementary anatomy, histology, and embryology. The frog is the animal chosen as being easy to obtain, convenient to dissect, and a fairly typical example of the vertebrate animals. Where the frog has proved unsuitable other animals have been substituted for it. The directions for dissection are printed in italics. The letterpress is clear and the illustrations are excellent. It is a good guide and a book which we can recommend. We think that a few words as to the best and most painless method of killing a frog might be prefixed to the chapter on dissection.

Surdus in Search of His Hearing. By EVAN YELLON An Exposure of Aural Quacks and a Guide to Genuine Remedies, Electrical Aids for the Deaf, Lip reading, and Finger Alphabets; Employments for Deaf; Hospitals, Institutions, &c. 1906 Pp. 120. London: The Celtic Press. Price 2*s.* 6*d.*—The introduction to this little book, written by a layman, is of itself most interesting. The author, himself a sufferer from loss of hearing, clearly shows the sense of seeking expert knowledge and the insanity of hoping for aid from quacks, and at the same time points out the immorality of the publication of quack advertisements in papers professing a high standing. "Some Spiders and a Fly," the title of the first chapter, has four subsections—the Drouet Institute, the gentleman who cured himself, Aerial Medication, and Keith Harvey and Aural Batteries. This is certainly a most amusing *exposé* of various quackeries. The principal firms who have speculated in aural therapy have all been interviewed and some obtain from the author high praise. The chapters "for the hopelessly deaf" are really very good, containing sound advice and excellent precepts, and should be read carefully by those for whom they were written. The sketch of Dr. Flynn and the Aural Syndicate is most entertaining. This book has the great merit of setting forth the genuine views of a man who has left no stone unturned and who believes that his experiences may be of use to his fellow sufferers and to them we recommend it. To the professional mind it must seem full of pathos, not only conscious from Mr. Yellon's point of view but unconscious, for Mr. Yellon appears to be scarcely free from the influence of the glamour of electrical quacks.

Clinical Studies in the Treatment of the Nutritional Disorders of Infancy. By RALPH VINCENT, M.D. Durh., M.R.C.P. Lond., Physician to the Infants' Hospital. London: Baillière, Tindall, and Cox. 1906. Demy 8vo, pp. 83. Price 3*s.* 6*d.*—In a little volume of 83 pages Dr. R. Vincent gives the clinical record of 20 cases of malnutrition in infants treated at the Hampstead Infants' Hospital. Although these are naturally selected cases they not only prove that this infants' hospital is doing excellent work and that the method of feeding employed is highly adapted for the purpose of treating infantile disorders of digestion and nutrition, but they show also that for descriptive purposes and for supplying accurate and precise details of the slight modifications in food required the symbols and terminology employed are vastly superior to any other system. Real progress in the scientific feeding of infants is more likely to ensue through the accumulation of recorded experiences than by any other means, and it is only since the percentage method of feeding, with its convenient symbols and terminology, has been introduced that any trustworthy and useful records in the matter have been preserved. Dr. Vincent's series of cases is a very severe indictment on the carelessness and gross ignorance displayed by the lower-class mother in infant management, and it illustrates the enormous expense which such ignorance entails on the nation. It costs no more to feed an infant properly than to do so improperly, but the expense of undoing the work of improper feeding is incalculable. We recommend Dr. Vincent's little *brochure* to the notice of that rapidly increasing number of medical men to whom the terminology of percentage feeding is familiar.

Atlas and Text-book of Human Anatomy. By Dr. JOHANNES SOBOTTA, Professor of Anatomy in the University of Würzburg. Edited with Additions by Dr. J. P. MCMURRICH, Professor of Anatomy in the University of Michigan. Vol. I., Bones, Ligaments, Joints, and Muscles. 320 illustrations, mostly in colour. London and Philadelphia: W. B. Saunders Co. 1906. Pp. 258. Price 25*s.* net per volume.—Professor Sobotta's atlas and its accompanying text we have already favourably noticed. To Professor McMurrich has been entrusted the task of preparing an English edition, of which the present is the first volume. In the original German edition the atlas and text were separate. The two have now been combined so that the text replaces the descriptions which were appended to the plates. The atlas thus gains in compactness. Dr. W. Hersey Thomas is responsible for a very readable translation of the German text. The nomenclature adopted is practically that recommended by the Basle Committee. We have no doubt that in its new garb the book will appeal to numerous readers who have no access to dissected specimens.

JOURNALS AND MAGAZINES.

The Bristol Medico-Chirurgical Journal.—In an interesting paper in the September number of this journal Dr. Edward Fawcett criticises the account usually given of alveolar cleft palate and maintains that this condition is in reality "an attempt to restore the prognathous condition of our remote ancestors." Dr J. R. Charles records three cases of diabetes in which secretin was tried as a remedy without any apparent good results and Dr. Maurice Faure writes of the treatment of tabetic ataxia by methodical exercises. Dr. Charles J. Whitby discusses, in a telling address delivered before the Bath and Bristol Branch of the British Medical Association, many of the social problems which face the medical profession and hails the advent of the motor as likely to result in a systematic attempt to deal with the question of dust, now a serious distributor of morbific germs.

The Birmingham Medical Review.—In the September number is published a second lecture by Professor R. Saundby on Medical Ethics, containing, as did the first, much practical wisdom and valuable advice. Mr. Alexander W. Nuthall continues his account of his experiences in fractures of the upper extremity; he records among other things that in cases of Colles's fracture 25 per cent. of sufferers remained permanently crippled, while in the majority of all cases the usefulness of the hand was impaired.

The Ophthalmoscope.—The number for October contains an interesting article on Ante-partum Ophthalmia by Dr. Rosa Ford of the Royal Eye Hospital, Southwark. Dr. Ford and Mr. Sydney Stephenson have already recorded several cases which are of interest as opening the question whether the gonococcus can penetrate the uninjured fœtal membranes or whether the cocci gain admission through natural or artificial rents in those membranes. The present case apparently indicates that infection must have taken place before the commencement of labour. The mother had had two children. The child was born 40 minutes after the artificial rupture of the membranes and eight hours and ten minutes after the commencement of labour. The house physician noted acute inflammation of the conjunctiva of both eyes. The upper eyelids were swollen and projected considerably beyond the lower. The placenta was discharged 20 minutes after the child. No douche was given before labour. The child anæsthetised, and is applicable to patients even in extreme old age, as there is no resulting shock In severe cases it is occasionally necessary to repeat the injection after an interval of 14 days, 40 minims being injected on the second occasion. At the end of a week the effusion is usually complete, while most of it forms in the first 48 hours. After the injection a cup and stem pessary is introduced into the vagina and is removed at the end of three days. The author has treated more than 100 patients by this method and states that the results are most encouraging. All the patients were much improved. In 75 per cent. the uterus kept up permanently. In 20 per cent. the uterus was kept within the vagina instead of being outside but was lower than normal. In 5 per cent. the prolapse recurred. These results are striking and certainly compare favourably with those obtained by most of the operative procedures commonly practised. The after-treatment is, of course, of importance, but does not require a greater length of time than is necessary after an ordinary plastic operation on the vagina. For a month the patient keeps her feet raised, staying in bed for the first fortnight. For three months from the time of the operation she is not allowed to do very much but after that time she may do as she likes. Besides describing his special mode of treating these cases Dr. Parsons discusses the general operative treatment of cases of prolapse and also that of cases of retroversion. In the treatment of cases of retroverted gravid uterus he uses an air-ball pessary in the vagina and if after 48 hours the uterus does not rise out of the pelvis he advocates abdominal section or the production of abortion. That such heroic procedures are ever necessary is contrary to the opinion of the majority of obstetric writers who have had any large experience of this class of case. The main interest of this work centres round the results of the operation introduced by the author of injecting quinine into the bases of the broad ligaments, and for this reason it is worth perusal.

Oftalmologia Clinica, estadistica de 8000 Enfermos. (*Clinical Ophthalmology, based on 8000 cases.*) Third Series. With 158 illustrations in the text and 35 plates. By Dr. ENRIQUE LOPEZ. Habana: Imprenta Avisador Comercial, Amargura 30. 1906. Pp. 229.

Dr. Enrique Lopez published in 1890 and 1895 two series of 1000 cases each of diseases of the eye observed in Cuba. The present volume presents a third series based upon 8000 cases. The book is divided into two sections, Ocular Pathology and Ocular Surgery, in each of which the various parts of the eye and adnexa are treated seriatim. Each pathological chapter is prefaced by a statistical table indicating the disease and the age, sex, and race of each patient. These statistical tables are the most important feature of the book. They are useful as evidence of the geographical and racial distribution of disease. From information given in the preface we find that the population consists of 67 per cent. white inhabitants, 17 per cent. mulattoes, 15 per cent. negroes, and 1 per cent. Chinese. Nearly 900,000 of the white population are native Cubans, 130,000 are Spaniards, and 40,000 belong to other countries. Without having made any detailed analysis of the statistics we find that the general run of ophthalmic cases in Cuba is much the same as in Europe. It is interesting to note that trachoma is very prevalent amongst the white races. The Chinese account for 4 per cent. of these cases; but it is still more instructive to observe that 7 per cent. were negroes and 4 per cent. were mulattoes, for it has been stated repeatedly that negroes in some parts of the world are immune.

The main mass of the book consists of the description and collation of cases belonging to quite common forms of ocular disease, illustrated by rough diagrams. The plates contain a large number of black and white drawings showing conditions of the fundus. Some of these are unusual and more space might have been devoted with advantage to discussing these cases in greater detail.

A Guide to Diseases of the Nose and Throat and their Treatment. By CHARLES A PARKER, F R C.S. Edin., Surgeon to the Throat Hospital, Golden-square, W. With 255 illustrations. London: Edwin Arnold. 1906. Pp. 426. Price 18s. net.

Mr. Parker in writing this book has had before him the desire of placing before his readers in a clear manner the methods to be adopted in order to diagnose and to treat the various abnormal and pathological conditions met with in the upper air passages. The text is abundantly supplied with drawings and diagrams of the nose, its accessory cavities, the pharynx and larynx, and also of a large number of instruments. Besides these illustrations there is almost a plethora of prescriptions, which will prove of service to the practitioner by affording him ample scope for varying his treatment of cases of diseases of the nose and throat.

The work is divided into six sections. The first is devoted to methods of examination, and methods of treatment operative and non-operative; the second to complications of the upper respiratory tract in relation to general systemic diseases; the third to diseases of the nose; the fourth to diseases of the naso-pharynx; the fifth to diseases of the oro-pharynx; and the sixth to diseases of the larynx; to which is added an appendix on the notification and isolation of cases of fibrinous rhinitis. With some few minor exceptions Mr. Parker has well carried out the intentions referred to and we are convinced that his book will prove of considerable service to students and practitioners; more especially will it be of service to those who, whilst engaged in family practice, are specially interested in diseases of the upper respiratory tract.

As an example of the minor defects of the work we may allude to the procedure in the radical operation for disease of the antrum, where Mr. Parker follows the teaching of Dr. H. L. Lack in not removing the lining membrane, but omits to state that at the present time most surgeons remove every fragment.

LIBRARY TABLE.

Aneurysm of the Abdominal Aorta. By FREDERICK PITCAIRN NUNNELEY, M.A., D.M. Oxon. London: Baillière, Tindall, and Cox. 1906. Pp. 121. Price 3s. 6*d.* net.—This book is the author's dissertation for the degree of Doctor of Medicine in the University of Oxford. Dr. Nunneley says that with the exception of the series of the 32 cases treated at St. George's Hospital and the statistics therefrom his pages contain little or nothing that is new. He trusts, however, that the addition of another series of statistics to the literature already published may be of some use to those interested in the subject. At pp. 48 and 49 Dr. Nunneley gives a list of conclusions; they form a very valuable portion of the book. Many of the cases recorded as treated at St. George's Hospital are very interesting and they are reported in Part II. of the little volume. In Part I. the author records his collection of historical cases and he gives an excellent clinical account of the disease.

The Frog: an Introduction to Anatomy, Histology, and Embryology. By the late A. MILNES MARSHALL, M.D. Cantab., F.R.S. Edited by F. W. GAMBLE, D Sc., Assistant Lecturer and Demonstrator in Zoology, University of Manchester. Ninth edition. London: David Nutt. 1906. Pp. 172. Price 5*s.*—The editor says that the late Professor Marshall had so complete a grasp of the difficulties which confront the student of elementary zoology and so great a sense of proportion and arrangement that no substantial alteration can increase the educational value of his work. In this, the ninth, edition Dr. Gamble has revised the chapter on development contains a definite quantity of a mercuric salt. The advantage of this lubricant is that it remains sterile, even when exposed for several days to the air, and of course catheters and probes which have been lubricated with it remain sterile also. It is said to be non-irritating and to arrest the growth of germs in the urinary tract. Catheterpurin is soluble in water and therefore does not interfere with cystoscopic observation.

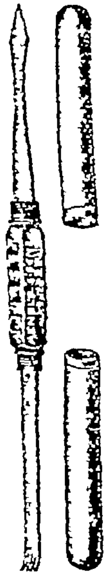
"TABLOID" HYPODERMIC TRINITRIN.

(BURROUGHS, WELLCOME, AND CO., SNOW HILL BUILDINGS, LONDON, E.C.)

The convenience of being able to carry in the pocket, so to speak, exact doses of the powerful drug trinitrin is obvious. Its restorative effects in aortic disease and in angina pectoris are well known. The tabloid hypodermic trinitrin contains $\frac{1}{100}$th of a grain of the drug, but tabloids may be obtained containing $\frac{1}{50}$th of a grain, $\frac{1}{200}$th of a grain, and $\frac{1}{250}$th of a grain respectively, while the tabloid trinitrin compound contains in addition to $\frac{1}{100}$th of a grain of trinitrin capsicin and menthol.

New Inventions.

AN IMPROVED VACCINATOR.



THE illustration represents a vaccinator which Messrs. Arnold and Sons of West Smithfield, London, E.C., have made at my suggestion and which, I think, embodies some slight improvements on those at present in use. Its principal features may be enumerated as follows:—(1) It combines in one instrument a lancet and a scarifier; (2) the ends are kept clean by screw on covers of distinctive sizes so that the instrument can be easily carried either in the pocket or in the vaccinating case; (3) being of larger size than the vaccinators generally made it is more convenient, especially as the grip is fluted; (4) the body or centre is not only square, which prevents the instrument from rolling about, but is of such a size that the ends are prevented from touching the surface on which it is placed; (5) the scarifier being bent at a considerable angle enables the back of it to be used for rubbing in the lymph; (6) there is in each blade a small hole intended for use when breaking off the ends of the vaccine tube; and (7) being forged from a single piece of metal it can easily be sterilised.

Southampton. A. A. MACKEITH.

PELVIC PEDICLE NEEDLES WITH RING LEVER HANDLES.

THE long-handled pelvic pedicle needle, though it still survives, presents several objectionable features which place it in the same category as the heavy-jawed forceps formerly considered essential for pelvic surgery. Not only is its point difficult to control but its long handle is continually getting in the way and interfering with the free movement of the point of the needle. On the other hand, loose needles gripped in holders, the best type of which is Bonney's, are never entirely free from a tendency to slip, nor can the driving force be applied directly behind the point of the needle. The needles shown in the illustration have been made for me by Messrs. Mayer and Meltzer of Great Portland-street, London, W. Each needle has practically two handles, one of which is grasped during the stabbing or pushing movement which takes up the tissues (Fig. 1), while the other, aided by a lever action on the first ring, serves to make the point of the needle present in the abdominal wound to be threaded or unthreaded (Fig. 2). The grip is convenient, the force is applied directly behind the point, control is perfect, and the ring-handle is so small that it is never in the way. I have found the needles especially handy in dealing with the stump in hysterectomy and in ovariotomy, and in cystotomy to pass the guide-sutures through the bladder-wall, but there are few abdominal operations in which they may not be found convenient. The short, nearly straight pattern (Fig 3) is the most generally useful and the slot type is preferable to an eyed needle if a deft assistant is available to thread the needle after it has been passed through the tissues of the pedicle and made to present in the wound.

Wimpole-street, W. W. SAMPSON HANDLEY.

FIG. 1.

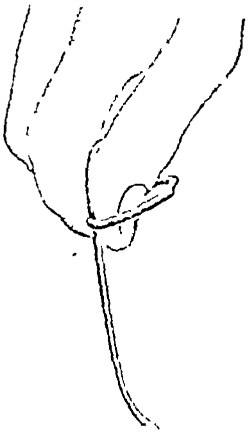


FIG. 2.

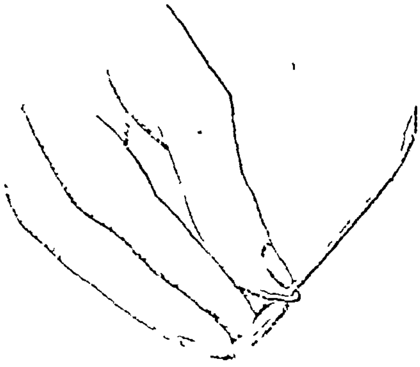
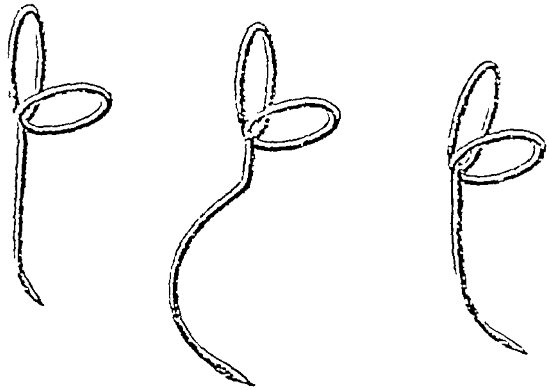


FIG. 3.



was born at full term and weighed 8 pounds 3½ ounces. Its position in utero was left occipito-posterior rotating to left occipito-anterior. There was no history of vaginal discharge and there was no evidence of a twofold rupture of the membranes. The course of the ophthalmia was favourable and the cure was complete in a fortnight. Dr. Ford and Mr. Stephenson take it for granted that the infective agent was the gonococcus and conclude that, accepting two and a half to three days as the usual incubation period and that from one to three days were required for the inflammation to reach its stage at birth, infection of the eyes probably occurred from three and a half to six days before birth. The explanation offered is that, as it is admitted by gynæcologists that there is spreading out of the cervix uteri, especially in multiparæ, the secretion containing the gonococci may have been washed against the fœtus by the involuntary movements of the pelvic organs, so that it was no longer protected from the infection which traversed the membranes.

Reports and Analytical Records

FROM

THE LANCET LABORATORY.

PANCREON.

(THOMAS CHRISTY AND CO., 4, 10, AND 12, OLD SWAN-LANE, UPPER THAMES-STREET, LONDON, E.C.)

PANCREON is prepared from fresh pancreatic glands, the active principle being subsequently combined with tannic acid, the combination being proof against the action of the gastric juice. It has been administered in cases of carcinoma of the pancreas. After giving pancreon daily for six days the absorption of nutrient material is said to have been increased by 50 per cent. and the output of sugar diminished by nearly a third. Opium, too, diminished the amount of sugar, but the absorption of food material was only increased by 10 per cent.

PAPKERCHIEFS.

THE PAPKERCHIEF SYNDICATE, 34, FENCHURCH STREET, LONDON, E.C.)

The papkerchief is a substitute for the linen handkerchief but, of course, is more hygienic in use since it can be destroyed immediately after it has been soiled. The material is well adapted for the purpose, being strong yet soft. With the papkerchief is provided a neat holder in which within a small and convenient compass a supply of papkerchiefs can be carried, while it contains a compartment for soiled papkerchiefs in which they may be temporarily placed until an opportunity for destroying them is at hand. The rôle of the papkerchief is in strict accordance with sanitary demands.

ANTITIS PEPPER.

(THE ANTITIS PEPPER CO., WOODSTOCK, OXFORD.)

Pepper is not only a pleasant flavouring agent contributing to the appetising qualities of food but is also a distinct aid to digestion, inasmuch as it stimulates the flow of the various digestive fluids. Its value in this regard, however, depends largely on its purity and quality and on account of the extensive adulteration of pepper in past years this condiment had fallen into disrepute. During recent years, however, the quality of pepper has much improved and its adulteration is rare if we accept the findings of the public analysts of the country. Antitis pepper is evidently of excellent quality and it possesses the peculiar aroma and pungency which are the essentials of this useful condiment. It is admittedly a blend of peppers and the result is a distinct success. We searched for the ordinary adulterants of pepper with negative result.

CREAM OF TARTAR.

(BLACKWELL, HAYES, AND CO., MOOR-STREET, BIRMINGHAM.)

Amongst modern frauds committed with substances intended for admixture with foods is that of substituting superphosphate or acid phosphate of lime for cream of tartar. Cream of tartar is used in conjunction with carbonate of soda "to raise" confectionery. It is beside the point to assert that superphosphate of lime is harmless for the purpose, although that may be doubtful since commercial superphosphate frequently contains arsenic. But superphosphate of lime is not cream of tartar. Two specimens of cream of tartar have been submitted to us by the above manufacturing chemists. Both proved to be of excellent quality, one containing over 90 per cent. of acid tartrate of potassium and the other, marked "Extra quality," 98 per cent.

PROTENE ARROWROOT.

(THE PROTENE CO., LIMITED, 36, WELBECK STREET, CAVENDISH-SQUARE, LONDON, W.)

The addition of an important quantity of proteid to arrowroot makes it, of course, a really nourishing article. The fact that arrowroot starch is very completely absorbed in the intestine renders it of value in the treatment of diarrhœa. Ordinary arrowroot contains less than 1 per cent. of proteid, while protene arrowroot, we find, contains approximately 20 per cent. of proteid. The nutritive value of arrowroot is thus considerably increased.

CYLLIN SYRUP.

(JEYES' SANITARY COMPOUND CO., LIMITED, 64, CANNON STREET, LONDON, E.C.)

Cyllin syrup is a preparation of the powerful bactericide cyllin which is intended for administration internally. It is said that when tested against a vigorous culture of the dysentery bacillus it effects a bactericidal action equivalent to a 30 per cent. pure phenol solution. As a matter of fact, it is ascertained that with five to 10 minim doses in the treatment of infantile diarrhœa the results are encouraging.

"NOURISHING STOUT."

(J. PINCHEN AND SON, THE BREWERY, SOUTH CREAKE, FAKENHAM, NORFOLK.)

We have submitted this stout to analysis and the following results were obtained: Alcohol, by weight 5·87 per cent., by volume 7·32 per cent.; extractives, 6·59 per cent.; mineral matter 0·27 per cent.; and proteid, 0·50 per cent. The stout was in sound condition and we can well believe the statement that it is brewed from malt only and that hops are the only means employed for bittering the beer. It is not so "full-bodied" as some stouts which we have examined. This stout, however, is moderate in price and offers the decided advantage of being brewed from malt and hops only.

HERCULES HUNGARIAN MINERAL WATER.

(RICHARD DAVIS, 20, MADDOX STREET, REGENT-STREET, LONDON, W.)

The bitter waters drawn from natural sources near Budapest are now recognised as valuable therapeutic aids when employed discreetly, and for the purpose the natural waters appear to have a more favourable action than the ordinary purgative salts or sulphates supplied by the druggist. According to our analysis the Hercules mineral water contains just 40 grammes per litre of mineral salts Of these 24·30 grammes are magnesium sulphate and 14·20 grammes are sodium sulphate. The total saline contents besides contain small quantities of sodium chloride and calcium carbonate. The purgative magnesium salts in this water predominate over the sodium sulphate. The water is an efficient yet comfortable aperient.

CATHETERPURIN.

(AGENTS: REITMEYER AND CO., 63, CRUTCHED FRIARS, LONDON, E.C.)

Catheterpurin is a lubricant specially designed for use with the catheter. It consists chiefly of glycerine which vital phenomena and stoutly champions the vitalistic hypothesis. It is to the first part of the address that we would especially draw attention—namely, the plea for endowment of medical education and research, for it cannot be too generally known that a crisis in the history of medical education has been reached, especially in London, and that in the public interest as well as in the best interests of the profession of medicine, endowment or monetary assistance is necessary. Medical education can no longer be self-supporting, in spite of the many sacrifices made in the past by those engaged in teaching and research at our great hospitals and medical schools. Medical science in this country can point to a splendid record of work done in the past, notably in regard to hygienic advances, with a resulting general lowering of the death-rate. If this record is to be maintained the necessary aid must be forthcoming for both medical education and research. Of the urgency of the need there can be no possible doubt, for in medicine, as in other matters, a failure to advance is tantamount to retrogression.

The Typography of School Books.

We published in our issue of Oct. 13th, p. 988, an interesting article upon the typography of school books and college text-books. An incalculable amount of harm may be done to the eyes of children by setting them to study badly printed books, particularly, as is so often the case, when the lighting arrangements in the schoolroom are defective. It is a generally accepted opinion that the great frequency of myopia in Germany is in large part due to Gothic type badly printed. It is probable that the lighting and general hygienic arrangements in German schools are better than in our own, but there is no doubt that myopia is more prevalent. Much attention has been directed to the printing of school books in Germany and it is possible that the replacement of Gothic by ordinary Roman type will effect some improvement. We are in cordial agreement with Dr. R. T. Williamson's remarks in the paper referred to though, as he will doubtless admit, he touches only the fringe of an extremely complex subject. Professor Cohn's test of satisfactory typography is, after all, of a very rough-and-ready order. Printing which does not reach this standard is unsuitable for teaching purposes, though it may be quite appropriate for ephemeral literature. It does not, however, by any means follow that print which satisfies Professor Cohn's test is really good enough for school books. It may be worth while to point out some of the chief features of print which affect legibility.

The character of the type employed is quite as important as its size. If a card is placed over a line of print so that the lower halves of all the letters are covered it will be found that it is nearly as easy to read as under normal conditions. On the other hand, it is almost impossible to read a printed line if the upper halves of the letters are hidden. The upper half of each letter therefore contains the most characteristic elements and should be boldly and clearly formed. The supra- and infra-linear heads and tails of the letters are comparatively unimportant and may be shortened without conspicuous loss of legibility. These features very considerably affect the appropriate depth of the interlinear spacing. Further, the lines which compose the letters must be of suitable thickness. Everyone must have experienced the difficulty of reading even large type when the individual letters are made up of very fine lines. It is necessary to use shiny, hot-pressed paper for this kind of printing and the reflection from the glazed surface detracts still more from the legibility. The general appearance of the page printed in this manner is delicate and pleasing, but the style is not to be recommended. The spacing of the letters and words for maximum legibility by no means depends entirely upon the size of the letters. It has been shown that a line is read by means of a series of lateral jerks of the eyes. At each pause a group of ten letters of average size is seen clearly. Long lines are a disadvantage, since the muscular effect exerted is greater in ordinary circumstances at the beginning and end of such lines. This affects not only the extrinsic ocular muscles but also the ciliary muscle, for the amount of accommodation required varies continually in passing from one end of the line to the other, especially if small print is held close to the eyes.

The complexity of the subject will now be fully appreciated; it has long occupied the attention of the veteran French ophthalmologist, Javal, whose recently published book[1] will well repay perusal. It is a matter of great interest and importance to discover exactly how bad print affects the eyes. It is unnecessary to refer to such obvious points as mental fatigue due to prolonged straining of the attention, and so forth. The influence of near work upon the development of myopia has been attributed to a variety of causes. Without entering into this discussion we may express our opinion that convergence is the really important factor. If this be so, anything which leads to books, and other things, being held very close to the eyes must be very deleterious. Faulty print is bad chiefly because it has to be brought as close to the eyes as is consistent with near vision—i.e., with maximum accommodation. The object of this procedure is to obtain the largest possible retinal image. There is no good evidence that accommodation *per se* has any deleterious effect at all; on the other hand, the exact *rationale* of excessive convergence is obscure. In so far as these remarks apply to middle-class education the application of the moral may be left for the present to the general practitioner, the parents, and the schoolmaster. It is otherwise with the education of the lower classes. Ophthalmic surgeons have in the last two or three years been appointed to examine the eyes of the children in the London County Council schools. Their duties have hitherto consisted in merely testing the eyes and distributing cards notifying the defect to the parents and urging them to seek hospital treatment. In this manner the ophthalmic hospitals and ophthalmic departments of general hospitals have been flooded with refraction cases. The question arises whether the sight-testing could not be equally well carried out by teachers after a course of training. The time of the ophthalmic surgeons might then be more profitably employed, first in instructing the teachers and then in correcting the refractions, other complaints being referred to the hospitals as heretofore. The ophthalmic surgeons should also be consulted upon the lighting arrangements in

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[1] Javal: Physiologie de la Lecture et de l'Écriture. Paris. Félix Alcan. 1905.

THE LANCET.

LONDON: SATURDAY, OCTOBER 20, 1906.

Universities and Medical Education.

IN an eloquent and suggestive address delivered by Sir JAMES CRICHTON-BROWNE at the opening of the Medical Department of the University of Leeds on Oct. 1st some points of very general interest and of far-reaching importance were brought forward in regard to the value of the university standard of education to the community at large, especially in respect of the training of medical men. Sir JAMES CRICHTON-BROWNE pointed out that any university which endeavours to adjust its teaching and its functions in any degree to the growing and changing requirements of the community for whose benefit it is intended must adapt itself to those requirements by enlarging its curriculum and by concerning itself intimately with the life around it. He further maintained that while great and epoch-marking advances were usually made by exceptional men of originality and imaginative power, whose force of intellect must assert itself no matter how adverse were their circumstances, there were always men of ability, capable of admirable work in science and industry, whose gifts required education and encouragement, and for such men university training and technical education are essential. That the lack of such opportunities may be little short of a national calamity was illustrated by a reference to the loss of the coal-tar industries which rightly belonged to this country, since the foundation was laid by the discoveries of Sir WILLIAM H. PERKIN, of which the fiftieth anniversary has recently been celebrated. To quote from the address: "We had the raw material, we had the capital, we had the skilled labour, but we allowed the profitable trade in dyes, perfumes, and drugs, which is now said to be worth fifty millions per annum, to go to Germany, simply because we had not at the time the educational machinery to carry out the experimental research necessary to enable us to take advantage of our own discoveries. We were short of investigators, of leaders, of captains of science and industry in those days, and of the true spirit of scientific enterprise, and we are still short of them." It is these phases of university work which it is at the present time most important to encourage, for the application of scientific methods to manufactures and to matters of everyday importance is a vital necessity, and this can only be effected if encouragement is given to suitable men to devote themselves to research. Sir JAMES CRICHTON-BROWNE does not share the gloomy forebodings of pessimists with regard to the future of our country, but admits that while Germany has encouraged research by Government aid in the organisation and equipment of laboratories and in the careful selection of teachers, lecturers, professors, and investigators, England has been remiss in promoting those interests which require scientific and medical research. Again, in German universities the teaching staff is much larger in proportion to the number of students than in those of this country. To these factors the recent rapid advances made by Germany in medicine and technology must be largely attributed.

In regard to medical education and research in this country there is, perhaps, almost a greater neglect or indifference on the part of the public generally than of any other branch of applied science, and in this connexion the remarks of Sir JAMES CRICHTON-BROWNE are particularly noteworthy. He regards this neglect or indifference as astonishing when the importance to the general welfare of the adequate instruction of medical men is considered. He points out that in no other of the great professions has less been done by the State or by private philanthropy to supplement the payments of those seeking to enter it; indeed, that in many instances medical schools have been developed and supported exclusively by medical men and medical students. Owing to the increased length of the curriculum and the constantly increasing cost of equipment and maintenance of the various departments necessary to a complete medical school, those institutions which are not endowed are at, or near, breaking strain and it is difficult to see any other solution of the problem than assistance "either from the State chest or by overflow from plethoric private coffers." Some figures quoted in the address are noteworthy as illustrating the view taken of these matters in other countries; in Zürich, for example, a few years ago the medical department of the university received in addition to the fees of the students, then 245 in number, a yearly grant of £4500 from the canton which, moreover, built and maintained the buildings. This instance, in a small country, without the great resources and wealth of our own, should stimulate a like generosity in regard to our own institutions. But it is not only medical education but investigation and research in medicine and its ancillary sciences which require encouragement and pecuniary aid if we are to retain that position which we have hitherto held and of which we as a profession are justly proud. It is in research work that Germany is advancing and in which we must endeavour to overtake her, and this, Sir JAMES CRICHTON-BROWNE stoutly maintains, we can do if given the means, for, with all her advantages, we have no cause to shrink from comparison with her in medical science, while he is of opinion that our young English practitioner is quite equal, if not superior, to any continental compeer.

The remainder of this interesting address is largely devoted to demonstrating the importance of the wide scope of a university training, which should have larger aims than material advancement or commercial prosperity, for it must foster culture, encourage individuality, indeed, be universal in its range. In regard to those studying medicine, it is important that the outlook should be as broad as possible in order to counteract the "inevitably materialistic tendency" of the actual medical studies, and in this connexion Sir JAMES CRICHTON-BROWNE gives a detailed criticism of the materialistic and neo-materialistic explanations of if it were increasingly active it would therefore manifest its action at the earliest age periods, especially at the periods of puberty and adolescence. From the diminished admissions at these ages, therefore, it would appear to be proved conclusively that its influence is not on the increase. If the strife and pressure of life were increasing the production of insanity these, together with heredity, would show their effect at the age periods of the most vigorous physiological and social activity from the twenty-fifth to the forty-fifth year, yet here also we are met with directly contradictory evidence in the reduced admission-rate for these age periods. The causes leading to the increase of asylum admissions above the age of 45 years must consequently be responsible for the increase of lunacy, if such increase is indeed a fact. That this period of life is more productive of mental disorder than formerly is rendered probable by the fact that suicide has become much more frequent at these age periods. The great growth in the number of persons living above the age of 45 years, shown in the Census returns from 1841 to 1871, has not continued since the latter date, the proportion in the last three Census reports remaining nearly stationary. This excess is largely attributable to an increased survivorship of persons who under less favourable hygienic conditions would have died at an earlier age and who, it might be supposed, would furnish a larger proportion of weakly persons at these ages. Whether this is the case or not, it is certain that there is increasing difficulty for persons above the age of 50 years to obtain employment, whilst the social conditions already alluded to militate against the aged sane being maintained by their relatives. These aged persons are consequently driven into the workhouses in increasing numbers, where hopeless monotony and a diet ill suited to the defective teeth of this class produce in many irritability which leads to excitement and so to certification and removal to the asylum, where they largely augment that class of potential lunatics to which Dr. NICOLSON has recently alluded in our columns.[3] Alcoholic intemperance also has been ascribed as a great source of increase. Dr. ROBERT JONES has recently renewed attention to the fact that this may often be a symptom of oncoming insanity rather than a primary cause—an argument that might be applied to many of the assigned causes. A habit of intemperance, whether primary or secondary, is recorded in a large number of instances, and this proportion has *remained fairly* stationary in the statistics of insanity as a whole for many years past. The fact that since 1899–1900 the consumption of *beer has fallen* from 32·2 to 27·9 gallons and of spirits from 1·17 to 0·90 gallons per head in 1905–06 does not suggest that intemperance is a *largely increasing* cause.

The causes tending to an increase of insanity have been brought into prominence whereas those which tend to its diminution have been ignored or misrepresented. The retention in asylums of a large number of the insane who according to the earlier Census returns were outside official recognition, must have prevented to a large extent the propagation of hereditary insanity. Some recent *newspaper* correspondents have dwelt on the enormity of setting free or allowing to *marry* any person who has once been insane, nevertheless cases suffering from the more transmissible forms of insanity are retained in asylums and to this fact the reduced admissions in the earlier decades of life may be largely due. Moreover, an earlier and improved treatment of insanity has reduced the severity of the disorder. Those extreme forms which were commonly depicted in the days of mechanical restraint are not now to be found in asylums. *Improved hygiene, increasing temperance,* and other social improvements should also tend to the development of the sound mind in the healthy *body of* all *but the very poorest* and most degraded classes of the community; indeed, the results of these influences would appear to be manifest in the reduction of insanity in the private class. The allowance by the Government of 4*s.* per head per week for all paupers who can be certified as insane would appear from the foregoing considerations to be the principal factor in the production and consequent accumulation of official lunatics. If this were *diverted* to the maintenance of asylums instead of to individual lunatics, the boards of guardians being left to *pay the full rate of maintenance* in the asylums, official lunacy would not only cease to increase but probably would *considerably diminish*. This capitation grant, while beneficial in some *respects,* has proved disastrous in its main results. It was *made for reasons* of party politics and has been aptly described as being "both a crime and a blunder." National lunacy does not therefore appear to be alarmingly on the increase; on the contrary, the only trustworthy statistics, those relating to the admission to asylums of newly occurring cases, give the hope that there may even be a reduction except in cases occurring at the less valuable period of life. All which would tend to show that anything like panic is unnecessary. Society none the less should be stimulated to more strenuous *efforts* to reduce the vast amount of misery and suffering which are revealed by the statistics of insanity.

Annotations.

"Ne quid nimis."

MR. SAM LEWIS'S BEQUESTS TO CHARITY.

UNDER this heading we mentioned in our issue of Jan. 26th, 1901, p. 271, that general and medical charities would benefit largely under the will of the late Mr. Sam Lewis, a well-known and very prosperous money-lender. In 1904 his widow, Mrs. Ada Hannah Lewis, on marrying Captain W. J. M. Hill, took the name of Lewis-Hill. By her death, which occurred at her residence in Grosvenor-square on Oct. 13th, reversions exceeding £1,000,000 will become available for charitable purposes. Some of the items are as follows:—£250,000 to King Edward's Hospital Fund for London; £100,000 for establishing a convalescent cottage home or hospital on the sea *coast in England* for Jewish patients; £20,000 to the London Hospital for *founding* and endowing a ward to be called "The Ada Lewis Ward," a total *of* £20,000 *to* three other hospitals for the same purpose, and £10,000 to each of *eight other* London hospitals. In addition to these bequests in aid of strictly medical institutions Mr. Lewis left considerable sums for other philanthropic purposes, the principal item being £400,000 for establishing dwellings for the poor. Since her the schools as well as the general hygiene from the ophthalmic point of view, an important branch of their duties being that of inspecting the typography of the school books and insisting upon reform if such were found advisable.

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[3] THE LANCET, June 9th, 1906, p. 1635.

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The Alleged Increase of Insanity.

THE actual increase or decrease in the frequency of the occurrence of insanity in the community can only be estimated by accurate statistics of the number of new cases occurring in each year. These, however, are not available since many cases are treated to recovery out of asylums in workhouse infirmaries, and so on, of which no enumeration is possible. The officially recognised insanity alone affords statistics enabling an approximate estimate of newly occurring insanity to be formed. Unfortunately, the statistics in this respect have been recorded by the Commissioners in Lunacy only during the last eight years. These, however, show that the ratio of first admissions to 10,000 of the population was 4·92 in 1898 and 5·21 in 1905, these first admissions having risen from 15,514 to 17,796, yielding an average increase of 326 per annum. This average increase, however, has not been steady but fluctuating. Thus in 1902 the first admissions amounted to 18,992, or 5·76 per 10,000, followed by a decline in 1903 to 5·50, in 1904 to 5·40, and in 1905 to 5·21. The period is so short that it is not yet possible to assert that this slight decrease is below or above the normal rate. These statistics, if not conclusive in regard to the total number of occurring cases of mental disorder in the population, are definitely conclusive in regard to the number of cases of sufficient intensity and duration to require asylum treatment. It is possible, of course, that a larger number of cases may be treated to recovery in the workhouse infirmaries, as evidenced by Dr. F. S. TOOGOOD'S recent presidential address at the West Kent Medico-Chirurgical Society.[1] These cases, however, are, as his statistics show, cases of recurrent intemperance, post epileptic excitement, and other cases of transient disorder that have always been largely treated in a similar way. Any diminution of admissions from this cause is much more than counterbalanced in other directions. The causes of increase in the admissions are mainly those which have led to the accumulation of lunatics in asylums. The potential lunatics, whom Dr. D. NICOLSON recently described as constituting a large part of asylum inmates, are not only retained but are admitted in much larger numbers. Many such cases, as the Census returns indicate, formerly dwelt in the care of their relatives. The movement of population from the country to the towns, the increased confidence in asylums, the lessened willingness of the relatives to care for their infirm, and their lessened ability to do so from the conditions of employment, and so on, have greatly aided this transfer of home-cared-for defectives to asylums.

The capitation grant to lunatics in asylums still exerts an increasing influence, the Poor-law officials and the police alike being more keen in detecting mental defect, so that dotards, paralytics, and weak-minded persons, whether criminal or incapable, are increasingly relegated to asylums. Compulsory attendance at school and the consequent investigations in regard to non-attendance have led to the discovery, and often to the removal to institutions, of many juvenile defectives who formerly escaped detection and treatment. These causes of increase specially affect the pauper class, and it is not surprising therefore to find that the increase in admissions is limited to this class. The admissions to private asylums were estimated by Dr. C. S. COBBOLD at 1·07 per 10,000 of the population in 1882, and since that date, according to the reports of the Commissioners in Lunacy, they have fallen to 0·70 in 1889, to 0·64 in 1896, rising to 0·76 in 1902 and falling to 0·68 in 1905. The rise after 1896 was probably due to the opening of annexes in the county asylums, in which persons could be treated as private patients at £1 per week. This has led to many patients formerly ranked as paupers becoming private patients. In spite of this and the great increase of the private-patient class in the population there has been a distinct and progressive reduction in the number of admission of private patients. The causes of increase, therefore, would seem to be limited to the pauper class. It is not possible briefly to trace the action of all the causes alluded to but one or two examples may be quoted. Senile admissions, for example, have been complained of from the moment of the operation of the capitation grant in 1874 to the present day by almost every asylum superintendent, and innumerable evidences might be adduced of the reality of this factor. Dr. J. A. CAMPBELL showed from the statistics of the Carlisle Asylum that the admissions of persons aged 70 years and upwards were only 2 per cent. prior to 1872 but had risen to 4 per cent. in 1882 and to 6 per cent. in the decade ending 1892. Many well-known superintendents have expressed the opinion that these senile admissions mainly consist of dotards and paralytics, of a class of patients who prior to 1874 were retained in workhouses or at home. These admissions, moreover, are still on the increase, the reports of the Commissioners in Lunacy showing that of the average yearly admissions per 10,000 of the population for the quinquennial periods 1893–97 and 1900–04 there is a rise of from 12·8 to 13·2 in those aged from 45 to 55 years, from 10 1 to 13·1 in those aged from 55 to 65 years, and from 11·4 to 14·8 in those aged 65 years and upwards. This is all the more striking since the same statistics show a diminution in the same ratios of admission below the age of 45 years. Thus between the ages of 35 and 45 years the decrease in the same quinquennial periods was from 12·4 to 11·9; between 25 and 35 years from 9·5 to 9; from 20 to 25 years there was a fall from 6·5 to 6·2; whilst from 15 to 20 years the ratio was stationary.

The great advance in admissions to asylums is in the age-periods above 45 years and this would seem to disprove the operation of the two chief causes to which has been attributed the supposed increase of insanity—viz., heredity and stress of modern life. Heredity has been credited by some recent newspaper correspondents with an enormous influence and they have accompanied their assertions by impracticable suggestions in regard to the detaining of lunatics in asylums, restriction of the marriage laws, and still more impossible plans. Heredity when increasing in intensity tends to appear at an earlier age and in a more degenerate form of disease;

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[1] THE LANCET, Sept. 15th, 1906, p. 701.

the enforcement of it might render less frequent the deliberate and criminal administration or taking of poison in instances in which it now occurs. Nothing of this kind, however, was brought to light at the inquest referred to, which was held upon a gentleman of independent means who had apparently obtained perfectly lawful possession of laudanum in a quantity which no doubt was sufficient to kill him several times over. At present laudanum ranks as a "preparation of opium or poppies" in the second list and is sold labeled as a poison and with its description and the name of its vendor. Greater precautions might, and ought to be, enforced but at the same time it seems hardly possible to frame restrictions which would prevent such a drug from being obtained in quantities exceeding that of a fatal dose by a gentleman of independent means who is determined to possess it or for whom a physician may think it desirable to prescribe its use. When he has obtained it, or when those around him have obtained it for him, care should be exercised with regard to it; but if a person who has become reckless through habit drinks it from the bottle without even attempting to measure a dose in the usual way the result which follows is due to his own act or possibly to the act or omission of others rather than to the shortcomings of the law dealing with the subject.

PONTYPRIDD WATER-SUPPLY.

FROM time to time for several years past reference has been made in our Wales and Western Counties Notes to the extremely unsatisfactory condition of the water-supply of Pontypridd and of a portion of the Rhondda valleys. These two districts are supplied by a private company the main sources of supply of which are from the uplands at the head of the little Rhondda valley where there is a reservoir having a capacity for 200,000,000 gallons. Until about two years ago the principal complaint against the waterworks company was due to the inefficient filtration which was carried out. The water was so discoloured that the inhabitants would not use it and had recourse to wayside streams which could be, and frequently were, specifically polluted. As recently as last month the medical officer of health of the Rhondda (Dr. J. D. Jenkins), reporting upon the prevalence of typhoid fever in a portion of the district, said that in several instances evidence pointed to polluted water as the cause of the disease. The water-supply was inadequate to meet the domestic needs of the consumers, with the result that water from shallow polluted wells and brooks was utilised. In 1905 the medical officer of health of Pontypridd (Mr. Howard Davies) pointed out that the water supplied to the town possessed strong plumbo-solvent properties which acted upon the leaden service pipes by dissolving the lead, producing a prejudicial effect upon the health of those persons who drank the water. A dozen or more definite cases of lead poisoning were subsequently reported in the Rhondda valleys. In his report presented to the Pontypridd council on Oct. 9th Mr. Davies states that the supply is still very unsatisfactory. Not only were there present the usual characteristics associated with the want of filtration but the analysis of samples examined at the Cardiff and county public health laboratory indicated the presence of lead, in one case to the extent of one-sixth of a grain and in the other of 0·30 of a grain per gallon. Mr. Davies states that during the 15 months that have intervened since lead was first found in the water no steps have been taken to remedy the condition or quality of the water by the company which has treated the public with utter indifference amounting almost to contempt. The medical officer of health of Pontypridd is to be congratulated upon the frank manner in which he has placed this question before the district council. We cannot but feel, however, that the waterworks company is not alone blameworthy. What effective action has been taken during all these years by the sanitary authorities of the district? The waterworks company after all is a dividend-earning concern, but the Rhondda and Pontypridd urban district councils have had cast upon them by the legislature the distinct duty of looking after the public health in their respective districts, including the supply of pure and wholesome water to the inhabitants. Pontypridd and the Rhondda are not small districts and they are not poor. They have a combined population of 150,000 persons and a 1d. rate realises over £2300. So that it is not the case of a small town with a low rateable value opposing a wealthy incorporated company. Many of the members of the district councils concerned are intimately connected with the management of the large collieries either as directors or principal managers, and these gentlemen, familiar as they must be with the necessity for large outlays in the conduct of their various undertakings, are not likely to be dismayed at the prospect of litigation. It is only fair to state that the Rhondda council has tardily issued a writ against the waterworks company and at the last meeting of the council the company was sufficiently alarmed to ask for an interview, with a view, if possible, to obviate litigation. During the past six years several abortive interviews have been held, so that the council very properly decided to grant no more, except for the purpose of considering definite proposals of the company. It would appear now that the proper course would be for the Pontypridd council to join forces with the Rhondda council and to insist upon the waterworks company carrying out its statutory obligations.

EFFECTS OF EXHALING TOBACCO SMOKE THROUGH THE NOSE.

A PROCEEDING practised by many smokers consists in discharging the smoke inhaled, especially from cigarettes, through the nostrils. It is even considered by some to be essential to the full enjoyment of the flavour of the tobacco. Perhaps in ordinary circumstances no harm is done to the individual save to the sense of smell, or by extending the surface for the absorption of nicotine and so increasing its action on the nervous system and the heart. But the habit may possibly serve to disseminate disease. The surface traversed by the tobacco smoke before issuing from the nose is moistened with the natural secretion of the mucous membrane lining it, and this secretion is mingled with the fluid discharged from the conjunctival sac protecting the eyes. It therefore contains numerous micro-organisms which, floating in the air, have become attached to the moist and sticky surface of the conjunctiva, as well as those which pass over the surface of the nasal membrane. As Tyndall long ago showed, germs are completely filtered off from the air inhaled by the extensive and irregular surfaces presented by the turbinal bones. Doubtless a very large proportion of such dust consists of dead germs, of practically harmless particles of cotton, linen, woollen, and silk fabrics, of disintegrated mineral matter met with in all towns, and of the dried and pulverised excreta of horses, dogs, and other animals. A case, however, reported by Dr. J. W. Wright of Columbus, Ohio, shows that the habit of exhaling tobacco smoke through the nose may involve danger to others when it is practised by one who is already infected and the subject of at least one form of disease. Dr. Wright's case supplies a clue to the occurrence of some otherwise inexplicable attacks of hay fever. A person suffering periodically from this annoying complaint seemed by his mere presence to convey infection to many of those whose houses he visited, the means of propagation being apparently tobacco smoke which he was accustomed to exhale through his nostrils. This habit appears, therefore, to be one which should be discontinued not only in the interests of the smoker himself but in those of others. Still more objectionable though late husband's death Mrs. Lewis-Hill has also given large sums to medical charities and for other philanthropic objects.

SOAP, ANCIENT AND MODERN.

IT is not everybody who holds the view that soap is an absolute *sine quâ non* in personal cleanliness and there are certainly those who go to the other extreme and use soap too freely to the detriment of their skins. Soap, as we know it, is after all a comparatively modern invention, but for all that there is no reason for believing that the people of ancient and mediæval times were not jealous of the cleanliness of the person. The Egyptians, Greeks, and more especially the Romans, we know, took great pains to preserve a clean body; the bath was a great institution in their day when soap, as we know it, was not in vogue but oils and fragrant compounds were used to anoint the body. The references to "sope" in the Bible probably meant fuller's earth or wood ashes or alkalies and these were employed, generally speaking, not on the body but for such operations as the cleansing of wine and oil casks or marble statues. The juice of certain plants which forms a lather was, however, employed for washing and is still resorted to at the present day in certain localities. Though soap is not mentioned by Homer, who, however, refers to the use of cosmetics in the bath, Pliny distinctly describes a substance for beautifying the hair prepared from good tallow and the ashes of the beech tree. Modern chemistry teaches us that soap is a true compound of fat (or fatty acid) with an alkali and it is evident, therefore, that in Pliny's time soap was known which could not have differed very materially in composition from the modern product. As an industry, however, soap-making on any scale was not known until some time in the seventeenth century. From that period the manufacture increased enormously, but at first the demands were for rough cleansing purposes or for certain industrial operations and not so much for the person. It is, indeed, probable that the soap of a hundred or so years ago was not adapted for personal cleansing owing to its too powerfully caustic and detergent properties acting harmfully on the skin. Nowadays soap is manufactured which is so pure as to leave unscathed the most delicate skin, so beautifully balanced are the fatty and alkaline constituents. The huge proportions which the soap-making industry has attained are a strong indication that soap has become a necessity of modern life. Only recently we have heard that the soap-makers of this country have combined their energies and their capital to the sum of many millions sterling. It is interesting to consider what are likely to be the results of this monopoly on the great soap-using public. Economy of production is, of course, the great aim of the combination but, as a rule, monopoly does not mean cheapening the ultimate product. If the constant use of soap, therefore, is a modern necessity and is a practice forced upon us in the interests of hygiene, the fact of soap becoming higher in price may reduce the hygienic standard. Again, will the monopoly affect the purity of soap? It is a fact that hitherto we have to thank competition for the purest soaps that can be made—soaps, that is, which are absolutely free from those foreign ingredients which are irritating to a delicate skin and which interfere with the soap's normal detergent properties. There is, in fact, no other article used in the domestic toilet upon which so much attention and so much pains have been bestowed to produce it pure, bland, and soothing. Will this standard of excellence be maintained? For the sake of our skins it may be hoped so. These questions, to our mind, raise another of equal importance. Is it not time, seeing how universal is the use of soap and more particularly for the purposes of personal cleansing, that its purity should be placed under some kind of control and that the public should be protected in regard to soap in much the same way as it is in regard to food and drugs! Honest manufacturers would have no objection to such a suggestion.

HOSPITAL OFFICERS AND CASES OUTSIDE.

AT a recent inquest upon a case of sudden death in Westminster the question arose as to what may be demanded of a hospital in the way of help outside its walls. The coroner remarked, in our opinion very properly, that "the hospitals are always ready to receive patients but they cannot supply doctors to the public." It is quite obvious that, except in cases of great urgency and in the immediate neighbourhood, the resident medical and surgical officers of a hospital should confine their work within the walls of their own institution. If the opposite were the case and these gentlemen were held to be at the service of the public outside the hospital then the hospital inmates would certainly suffer great risk of deficient attention and medical men outside would be inconveniently interfered with. On the occasion in the Westminster court to which we are referring a grievance was also expressed that the hospital applied to had not been willing to send an ambulance. The complaint was natural but ill-founded, for the simple reason that this particular hospital, like so many others, had no suitable ambulance to send. The question of ambulances for street accidents and for cases such as this has often been raised in our columns and up to the present London undoubtedly is deplorably lacking in any accommodation of the sort. The blame, however, is in no way to be imputed to the hospitals. It is their business to treat people brought within their walls, not to bring them there. Similarly they are in duty bound to supply good medical and surgical attention to those who are already in the hospital but in no manner of means are they liable for similar services to the public without.

A FATAL OVERDOSE OF LAUDANUM AND THE SALE OF THE DRUG.

Dr. H. R. Oswald held an inquest recently at Lewisham upon the body of a man aged 57 years, described as an independent gentleman, who was said to have died in the following circumstances. He had been in the habit of taking laudanum in order to induce sleep and instead of waiting, as was his habit, for his wife to measure out a dose he had drunk what he thought sufficient directly from the bottle, with the result that he swallowed a quantity equal to about 24 grains of opium and died. Evidence was given to the effect that the wife was able to procure laudanum for her husband without difficulty and a medical witness and the coroner, in addressing the jury, called attention to the ease with which laudanum can be bought and to the limited restrictions placed upon the sale of poisons by the Pharmacy Acts. As is well known, the law provides for the division of poisons into two classes, those included in the first being sold subject to conditions which include entry in a book of all particulars of the sale with the signature of the purchaser, or, if he be unknown to the seller, with that of someone introducing him to the seller as well. Those in the second list have to bear upon the box or bottle containing them the description of the article, the name and address of the seller, and the word "poison." It is not easy with these or with any other conceivable regulations to prevent persons who deliberately intend to take poison from doing so on account of the number of poisonous substances which enter into various manufactures or are used for agricultural and other purposes in large quantities. At the same time greater stringency in the law and in this summer and of the summer of 1905. Last year the death-rate among infants under one year was 229 per 1000 births, whilst this summer it was 198 per 1000 births—the smallest infantile death-rate ever known in New York. The summer just past was hotter than the summer of 1905; the mean temperature of 1905 was 74·5° F., while that of 1906 was 76·3°. By those who believe in the pasteurisation of milk it is claimed that the increased amount of pasteurised milk supplied at the Straus depôts and by large milk dealers is chiefly responsible for the decrease in the infantile death-rate. Last summer about 3000 quarts of milk were pasteurised daily, while this year 330,000 quarts were treated by this process daily. But this is not all. The advocates of pasteurisation contend that if the pasteurisation plants had not been stopped from August 4th to Sept. 15th owing to the scarcity of ice the infantile death-rate of New York would have been lower by far. During this period of time there was an increase of the deaths of babies as compared with the corresponding period of 1905. Of course, statistics are by no means wholly to be relied upon, but there can be no doubt that the infantile mortality of New York has exhibited a progressive decrease during the past few years, a decrease which has synchronised with the establishment of Mr. Strauss's milk depôts. That pasteurisation has been the sole factor in this improvement it would be absurd to assert; other advanced sanitary measures have undoubtedly played a conspicuous part. But it would seem that pasteurised milk is far better for very young children than milk carelessly handled and delivered, and until it is possible to procure raw milk in a pure condition one or another of the various methods of treating milk now practised should be put into effect.

THE RELATIVE THERAPEUTIC VALUES OF VARIOUS OINTMENT BASES.

IN the *Journal de Médecine de Bordeaux*, 1906, No. 14, is an excellent survey of the various ointment bases which has recently been made by Dr. W. Dubreuilh with the object of showing the necessity of understanding the properties of the various media used as ointment bases in order to secure exactly the desired result. Lard melts at the temperature of the body and is readily absorbed, but it is unsuitable for mixing with compounds of mercury owing to its tendency to become rancid. Soft paraffin does not become rancid, is not acted on by soap or by alkalies, and is not completely removed from the skin by washing in cold water. It is quite an inert substance and on that account forms a useful basis for chemically active medicaments. While soft paraffin is as readily fusible as lard it differs from the latter in that it remains on the surface, whereas lard penetrates beneath the stratum squamosum. It is valuable, therefore, as a basis for superficial dressings. Wool-fat is useful for giving tenacity to too fluid ointments; it has great penetrating power, is less prone to become rancid than lard, and possesses the useful property of absorbing an equal weight of water. Glycerin of starch, made of the consistence of lard, is a penetrating, viscous basis, not prone to rancidity. It is readily removed from the skin by washing. Cerates, composed of a mixture of wax and oil, with or without water, form useful superficial dressings. When they are applied to the skin the oil is absorbed and the water evaporates, leaving behind a layer of wax. They are useful when it is required to apply a medicament to a limited area without diffusion to neighbouring parts, hence they occupy an intermediate position between ointments and plasters. An excellent basis for cerates consists of wool-fat and white wax, of each two parts, and olive oil one part. It is advisable always to employ wool-fat when water-soluble substances—e.g., phenol and mercuric chloride—are prescribed. Dr. Dubreuilh points out that the substances which are incorporated in ointments are not necessarily therapeutically active and a careful study of their topical action is worthy of attention Inert powders—e.g., zinc oxide, starch, magnesium carbonate, talc, and kaolin—are frequently added to ointments in order to increase their consistence and to render them more persistent in action, by absorbing a portion of the fatty basis and so hindering its absorption by the skin. This is the explanation of the addition of 10 parts each of starch and oxide of zinc to 20 parts of soft paraffin in the preparation known as Lassar's paste. When the ointment contains in addition an active medicament—e.g., coal tar or sulphur—the action of the latter is prolonged by mechanical dilution with the inert powder. The inert substances mentioned above are preferred by Dr. Dubreuilh in the order named; they should be in a very fine state of subdivision. Bismuth subnitrate is sometimes used for the same purpose but it is not quite inert. Dr. Dubreuilh considers that many active ingredients of ointments—e.g., the various preparations of mercury—act by liberating a volatile substance as a result of decomposition in contact with the skin. Thus in the case of mercurials it is probable that the vapour of mercury is slowly disengaged, while in the case of chrysarobin it is of interest to note that the action of the drug is exerted around, as well as at, the point of application. From these considerations it is clear that the choice of the ingredients of ointments is by no means a haphazard proceeding. It is of interest to note the opinion expressed by Dr. Dubreuilh that in the case of volatile ingredients—e.g., mercury and methyl salicylate—the choice of a basis is of but little importance, the absorption of the active ingredient being practically the same when an impermeable basis—e.g., *soft paraffin*—is used, as when lard is employed as the basis. This point is of importance, since it permits the employment of soft paraffin in such cases in place of lard which so often turns rancid and so sets up irritation.

THE ANTIQUITY OF ORGANOTHERAPY.

IN an interesting fasciculus upon the extreme antiquity of organotherapeutics, Professor Hugo Magnus of Breslau is at some pains to show that the medicine of the remote past was in the main rational. Just as to-day cerebrin, a preparation of calves' brains, is used in the treatment of neurasthenia, chorea, hysteria, and epilepsy, so in ancient and mediæval times the brains of such diverse creatures as lions, squirrels, asses, owls, and ravens were dried, pulverised, and applied in cases of headache, dizziness, and convulsions, while sheep's brain was more especially employed in cases of chronic insomnia. Similarly preparations of the liver, spleen, heart, lungs, uterus, testes, prostate glands, and marrow of various beasts and birds were regarded as remedies for diseases of these several parts and for internal pains supposed to be connected therewith. Professor Magnus further shows that blood was in the earliest period of man's history regarded as a medicine or, as in the case of menstrual fluid, as a noxious drug or poison. Man, he opines, very early began to argue much as does the modern organotherapeutist who tells a patient with an insufficient thyroid gland to eat sweetbreads. It is a question, however, whether the human mind at once arrived at this train of reasoning. Many of the preparations in primordial folk-medicine would seem to point back to a time when the giving of a medicine was equivalent to the feeding of a tribal ghost or spirit. Thus preparations of the human excreta and of animal fluids, of corpses, mummies, brains, and viscera in general would seem to date from a period when life or spirit was held to less frequent is the emission of smoke from the ears. This implies a perforated membrana tympani, a condition often associated with diseased conditions of the tympanum that are not unfavourable to the conveyance of infection.

THE RELATION OF DENTAL CONDITIONS TO PULMONARY TUBERCULOSIS.

IN the modern treatment of pulmonary tuberculosis every care is taken to remove the patient from unhealthy surroundings and to place him under such conditions as will favour success in combating the disease. We find the patient placed as far as possible in a germ-free atmosphere, his surroundings kept scrupulously clean, and an endeavour made to maintain the nutrition of his body by plentiful food combined with physiological rest. One item is apparently often overlooked or neglected—namely, the condition of the mouth. This important question is dealt with fully by Mr. F. Lawson Dodd in a valuable paper in the Transactions of the Odontological Society.[1] Mr. Dodd has the advantage of being on the staff of a metropolitan hospital for diseases of the chest and the tale that he unfolds of unhealthy mouths in tuberculous people should arrest the attention of the medical practitioner. His figures speak for themselves. He says: "I have recently examined the mouths of the patients under treatment at Mount Vernon Hospital for Diseases of the Chest and also at their Northwood sanatorium. I saw in all 125—72 at Hampstead and 53 at Northwood. At Hampstead the result was as follows: of the 72 patients 39 were females and 33 males, but for statistical purposes six cases under 12 years of age, whose permanent teeth were not fully erupted, have been omitted. In four of these six cases there were 'dead' teeth, or exposed pulps, associated with marked oral sepsis. For the rest, in reckoning the number of teeth missing I have calculated on a basis of a total of 32 teeth for all patients over 20 years of age and 28 teeth for those between 13 and 20 years. The 35 women examined at Hampstead, all between the ages of 13 and 40 years, should normally have 1088 teeth. Of these, 179 were decayed and 282 either missing or so badly decayed as to be useless for mastication—a total of 461 missing or diseased out of 1088, or rather over 42 per cent. of these 35 patients; 16 showed the presence of 'dead' teeth or exposed pulps and in many mouths the number of such lesions was quite considerable. One patient was wearing an artificial denture which she was unable and unwilling to have removed for the purpose of cleaning. On the whole, there were signs that these patients had made some attempt to keep their mouths in a cleanly condition. The number of male patients examined was 31. These should show normally a total of 976 teeth. They ranged in age from 13 to 54 years, but were mostly between 20 and 35 years. Of this possible total of 976 teeth, 175 were carious and 263 were missing or so badly gone as to be useless. That is, of 976 teeth 438 were either decayed or missing, a percentage of 45; 19 cases had exposed pulps or 'dead' and foul teeth and stumps; 22 cases were in a very dirty and neglected condition; and in 17 mouths there was more or less well-marked pyorrhœa alveolaris. Unlike the female mouths, these, as a whole, were entirely neglected and the task of examination was often most offensive owing to their extremely septic condition. At Northwood I examined 53 patients, 28 male and 25 female. The average age of the 28 males was 25½ years. In nine cases the mouths were very neglected and dirty. Of a possible total of 870 teeth 189 were missing and 181 decayed—i.e., 370 teeth were either decayed or missing, a proportion of 42·5 of the total masticating power. The 25 female patients, whose average age was 22½ years, showed, out of a possible total of 780 teeth, 270 either decayed or missing—i.e., about 36 per cent. Ten patients had foul stumps or 'dead' teeth in their mouths, although, as was the case at Hampstead, they seemed more careful and cleanly than the male patients." An equally unsatisfactory state of affairs was recorded by Mr. H. B. Ezard[2] of the state of the teeth of the patients at a sanatorium in which he himself was undergoing treatment. He found that of 192 possible molars 12 were in action; "taking the average age 26 out of 32 teeth only eight were in action—i.e., 75 per cent. of the first process of nutrition had been lost." These data of Mr. Dodd and Mr. Ezard taken together indicate two facts: (1) the great want of efficient masticating power; and (2) the constant presence of oral sepsis in tuberculous patients. Now an important factor in the treatment, and indeed in the prevention, of pulmonary tuberculosis is the proper nourishment of the tissues. This obviously is impossible if such septic oral conditions are allowed to persist in those undergoing treatment, for, as Mr. Dodd remarks, an aseptic food-supply may be attained and milk free from tubercle bacilli may be consumed, "but all these precautions may be a delusion and a snare if the patient is chewing his food before swallowing it in such a charnel-house" as his figures demonstrate.

THE TREATMENT OF MILK IN NEW YORK CITY AND ITS EFFECT ON THE DEATH-RATE OF INFANTS.

SOME few years ago Mr. Nathan Strauss, a wealthy inhabitant of New York, became impressed by the extremely high mortality among very young children then existing in that city. He made investigations into the matter and as a result convinced himself that contaminated milk was the chief factor of the high infantile death-rate. At that time the methods of handling and of delivering milk in New York were very crude and in consequence the milk retailed in the poorer districts of the city was in a very bad state and amply accounted, especially during the summer months, for the disease and high death-rate prevailing among young children. Mr. Strauss then inaugurated milk depôts at which milk could be obtained that was comparatively free from hurtful germs. The milk at these depôts was retailed at an almost nominal price. The results of this philanthropic procedure have been most satisfactory, but before giving any details as to the favourable influence on the health of the young brought about by Mr. Strauss's system it may be as well to describe in brief the process of rendering the milk as little harmful as possible. In the first instance the milk is cooled thoroughly, is kept cool during transportation, and on arrival in New York is at once taken to the Strauss main laboratory and placed on ice preparatory to being put into bottles to go through the process of pasteurisation. No bottle of pasteurised milk is sold later than 24 hours after pasteurisation. Judging from statistics which show that since pasteurised milk has been within the reach of the poor of New York the infantile death rate has greatly decreased, it is only fair to presume that this milk has had much to do with the gratifying result. In 1897 the death-rate amongst waifs picked up in New York and taken to the asylum at Randall's Island was 44·36 per cent. In 1898 Mr. Strauss obtained permission to instal in this asylum a complete plant for the pasteurisation of milk foods, when the death rate dropped to about half its former figure. The New York Department of Health has recently given statistics in regard to the infantile mortality of less profuse hæmorrhage from the intestine. One patient passed about a pint of blood in 36 hours. As the mesenteric glands are often enlarged in Malta fever and the micrococcus has been found in them it seems probable that Peyer's patches are attacked as in typhoid fever and that they sometimes ulcerate. The following case is an example. A soldier arrived in Malta in good health on Sept. 9th, 1905. On Nov. 22nd he was admitted into hospital with severe headache, pain in the lumbar region, and a temperature of 102·8° F. A few râles and rhonchi were found in the lungs and the abdomen was distended. The spleen could not be felt. The serum gave the reaction for Malta fever and did not give the reaction for typhoid fever. The temperature remained high—from 103° to 105°—with only slight morning remissions. The pharynx became intensely red and congested and there was ulceration of the lips and gums. The sputum was copious and contained red and white blood cells, mucus, and many cocci. Epistaxis was troublesome. Ten days after admission albumin was found in the urine. The patient became very restless and there was muttering delirium. On the twelfth day after admission he rapidly became worse and died. Malta fever closely resembles typhoid fever and the two diseases may run concurrently. Therefore the abdomen and stools were carefully watched. But no spots were seen and the spleen was not felt until the day of death. At the necropsy the lungs were found to be very engorged and œdematous, especially at the bases. There were extensive subperitoneal parietal hæmorrhages. In the stomach were several small submucous hæmorrhages. The spleen was enlarged, very congested, soft, and friable. The kidneys were actively congested. The mesenteric glands were enlarged and soft. In the small intestine were eight ulcers situated between 18 and 36 inches from the ileo-cæcal valve. The largest was ten millimetres long and six millimetres broad; the smallest was four by three millimetres. The ulcers were mainly opposite the mesenteric attachment. Some appeared to correspond to Peyer's patches, others to the distribution of the blood-vessels. The margins were raised and infiltrated, the edges were sinuous and shelving, though in parts undermined. The bases were not thickened; on the contrary in two ulcers only the peritoneum and subperitoneum were left while in others the muscular coat was exposed. The adjacent peritoneum was normal. The large intestines showed only one submucous hæmorrhage in the sigmoid flexure. The conditions suggested typhoid fever complicating Malta fever. Portions of the spleen and some enlarged mesenteric glands were therefore bacteriologically examined. The spleen yielded pure cultures of the micrococcus Melitensis. Two cultures from the mesenteric glands were sterile. Four others contained the bacillus mesentericus and the bacillus coli. One colony of the micrococcus Melitensis was obtained from the six cultures.

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[1] Vol. xxxviii., p. 260.

[2] Journal of the British Dental Association, 1902, p. 60.

"DEATH BY MISADVENTURE."

AN inquest was recently held by Mr. T. Foster Barham at Chilton, near Bridgwater, touching the death of Enoch Browning, aged 57 years, mate of the ship *Severn*. The deceased was seen by the captain of the vessel at 5 50 P.M. on Sept. 25th. At that time he was leaving the Chilton brickyard wharf to purchase some groceries in the town. Between 9 and 10 P.M. he had a pint of beer at an inn. He was then quite sober. At 5 50 A.M. on Sept. 26th a labourer discovered the body of Browning lying between the river's bank and a stack of drain-pipes; it was dead, cold, and stiff. There were blood and hair on the pipes. The captain deposed that the deceased, whom he had known for 25 years, was generally a sober man and that he had never known him to faint or to have a fit. A police constable who arrived on the scene about one and three quarter hours afterwards said that he made an examination of the body and found that "on the left side of the head, just above and behind the ear, was a large wound and the hair had been removed. There had been much loss of blood. Such a wound might be caused by a blow against the pipes. The mark where the hair was on the pipes was 15 inches below the level of the path." The jury returned a verdict of "Death by misadventure." The report of the inquest in the *Bridgwater Mercury* of Oct. 3rd makes no mention of medical evidence and therefore we presume none was called. The facts that the captain of the *Severn* heard no noise during the night and that his dog was not aroused, in our opinion, prove very little, for it is clear that the deceased met his death by violence. A fatal blow in the position described, dealt stealthily by another, would probably cause no more disturbance than one received accidentally. Whether the deceased died from loss of blood or from fracture of the skull and injury to the brain was not elicited. We cannot help expressing our regret that a necropsy was not held and the evidence of a medical man requisitioned. As the case stands the verdict of the jury would appear to have been mainly based on the expert testimony of a policeman. There are instances in which death from violence is obviously the result of accident, even in the absence of eye witnesses of the fact, but we cannot think that the one under consideration falls within this category. An open verdict would have been preferable to that returned, but why should not much doubt have been dispelled by more trustworthy means than those employed?

THE ACLAND HOME, OXFORD.

ON Saturday, Oct. 13th, the new wing of the Acland Memorial Home, Oxford, was opened by Professor William Osler, the Regius Professor of Medicine. The new wing contains sterilising and anæsthetic rooms, rooms for patients, and an operating theatre; verandahs are also supplied whereon the patients may obtain the benefit of the open air. The total cost of the building amounts to £2500 and the enlargement is mainly due to the exertions of Miss Acland who has herself collected a sum of £752. Among those present were the Vice-Chancellor (Mr. T. H. Warren, President of Magdalen), Sir George Dashwood, Vice-Admiral W. Acland, a large number of heads of houses, and many medical men from Oxford and the neighbourhood. Mr. Montague Wootten, the chairman of the committee of the home, concluded a short speech by asking Professor Osler to open the new wing. Professor Osler commenced by reading a letter from the Queen to Miss Acland congratulating her on the success of the undertaking and ending with an expression of Her Majesty's every good wish. In one of his delightful speeches he then referred to three groups of cases which were much more suitable for treatment away from home than at home. These three groups were surgical cases, enteric fever, and a certain number of nervous diseases. With regard to nervous cases, he said that the home was a great boon, and, in fact, there were few of them who would not be greatly improved in their minds and in their bodies if—just as a good Catholic for his soul's sake went into a retreat for two weeks in the year and thought only of things on the other side—they went into the home for two weeks where they could be in peace and quietness. There were also local conditions which made such a home very necessary. One of these was the presence of some 3000 undergraduates in Oxford, for whom it was very important that there should be a place where in the event of serious illness they would receive the best possible care. Professor Osler next gave a short historical retrospect of the home and concluded by declaring the building open. The Rector of Exeter and others having spoken, a vote of thanks reside in blood, sputum, semen, and in the bodies, dead or alive, which contain these. The Red Indian, it is often said, eats the liver of his enemy in order to become brave. He increases his σπλάγχνα in the Homeric sense. Yet it is at least open to question whether he is not eating his enemy's liver because he believes that organ to contain some portion of the tribe-life or spirit of his enemy, which when devoured helps to build his own tribe-soul. Cannibals, who only eat certain parts of the human body, would seem to argue in this way. They eat to take in soul or life and only secondarily to acquire specific virtues such as courage.

INFECTED MILK AND CONTAMINATED MEAT IN CHICAGO.

IT is stated in the Bulletin of the Chicago health department of Sept. 22nd that there is a serious increase of typhoid fever in that city, due, it is believed, to milk contaminated with the poison by the use of polluted water in washing cans and other utensils. The health department has closed an infected milk shop and excluded milk from two dairy farms pending the bacteriological examination of their water-supplies. There were analysed in Chicago during the week ending Sept. 22nd 1102 samples of milk, 11·3 per cent of which samples were below grade. The food inspectors in the "loop district" condemned and ordered to be destroyed 7547 pounds of meat, 19,500 pounds of canned goods, and 19,950 pounds of fish. The meat inspectors at the Union Stockyards condemned and ordered to be destroyed 116,900 pounds of food. The total quantity of foodstuffs destroyed during the week ending Sept. 22nd amounted to 165,237 pounds.

PERFORATION OF THE ŒSOPHAGUS INTO THE PLEURAL CAVITY.

PERFORATION of the œsophagus not due to injury or to ulceration from a malignant growth is very rare. In *American Medicine* for September Dr. T. H. Potter has reported the following case. A labourer, aged 44 years, was admitted into hospital. He had always enjoyed good health. After taking a meal with a liberal amount of whisky and beer he was seized with sharp pain in the præcordium which was followed by great weakness and unquenchable thirst. On admission he was unable to stand. The pulse was 112, weak, and irregular; the respirations were 28, shallow, and irregular; and the temperature was 98·5° F. The skin was cyanotic, cold, and clammy. The left chest was enlarged and immobile and the intercostal spaces bulged. Movements of the right chest were shallow and the breathing was principally abdominal. Vocal fremitus was absent on the left side. On percussion the left side was absolutely dull; the right side was dull up to the fifth rib and above this slightly tympanitic. On the right side breath sounds were absent except at the upper posterior part where there was amphoric breathing. On the right side the breathing was weak below, bronchial above. The heart sounds were scarcely heard. Liver dulness extended two fingers' breadth below the ribs. The patient rapidly grew worse and about three hours after admission emphysema was observed at the root of the neck. This rapidly spread until the whole chest, upper arms, face, and scalp were involved. The eyelids became so swollen that they could not be separated. On the chest the skin was elevated four inches. The pulse rose to 120 and became imperceptible, and the temperature rose to 100·2°, but the respirations remained at 28. Death occurred 11 hours after the onset. At the necropsy, on incising the skin air escaped under considerable pressure. The left lung was collapsed and the left pleural cavity was full of dark fluid with the odour of beer and particles of food. The right pleural cavity contained dark bloody serum and there were adhesions and signs of pleurisy. There was slight effusion into the pericardium. The liver was enlarged and cirrhotic. On the anterior surface of the stomach about five centimetres from the cardiac orifice was an irregular ulcer four and a half by six centimetres. In the œsophagus was an oval longitudinal rupture three centimetres long. Its edges were well defined, bevelled at the expense of the inner coat, and necrotic. Its lower end was seven and a half centimetres above the diaphragm. Opposite its upper end was an ulcer about five millimetres in diameter. About one centimetre above the cardiac orifice were two ulcers of about four and six millimetres in diameter respectively. The conclusion was drawn that spasmodic contraction of the œsophagus was provoked by the meal and caused rupture of the œsophagus through an ulcer into the pleural cavity.

A SAD CASE OF NEGLECT OF CHILDREN.

A WIDOW named Harper was sentenced recently at Stratford to two months' imprisonment for neglecting her four children in a manner likely to cause them unnecessary suffering or injury to their health. They consisted of a boy aged 12 years, two girls aged respectively seven and five years, and a girl ten months old, and the evidence showed that they had been found on more than one occasion in their mother's house quite naked, filthy, and verminous. According to medical evidence they were badly nourished and the youngest suffered from rickets and eczema. The relieving officer said that he had never seen a dirtier woman than the defendant or a place in a more deplorable state and upon one occasion she had called upon him in an intoxicated condition. In the circumstances the penalty inflicted was evidently richly deserved, but a serious aspect of the case with regard to which no charge was made and no penalty was imposed is to be found in the statement of the woman, confirmed by other evidence, that her work consisted in preparing "sarsaparilla wine." This she did in the premises described for a "City firm." It was said by a sanitary inspector that there had been difficulty in tracing the source of her employment, but it had been done and the employment had been stopped. If this means that only the work done by the woman in question in the preparation of sarsaparilla wine was put an end to the imprisonment inflicted upon her would no doubt have achieved the same object, and we are left to conjecture that others will do the work in her stead. It is, however, both dangerous and unnecessary that the preparation of any kind of food or drink should be performed by workers of the class to which she belonged in their own homes, even when their rooms are kept reasonably clean from their point of view. It is a matter of regret, therefore, that the name of the "City firm" who allowed it to be so done should not have been made public with all the circumstances of the manufacture of the beverage.

MALTA FEVER WITH ULCERATION OF THE SMALL INTESTINE.

IN the *Journal of the Royal Army Medical Corps* for August Lieutenant L. Bousfield, R.A.M.C., has reported a case of Malta fever with ulceration of the small intestine, which is of considerable interest for two reasons. Ulceration of the intestine is rare in Malta fever and in the early stages of the disease the diagnosis from typhoid fever is often difficult. Hughes in his monograph on Malta fever states that one of the differences from typhoid fever is the absence of ulceration of Peyer's glands. He describes patches of congestion as occurring throughout the small intestine but states that Peyer's patches are unaffected except where there is extreme congestion of the surrounding intestinal wall and that "in no cases was ulceration present." During the last five months several cases of Malta fever have come under Lieutenant Bousfield's observation in which there was more or

Wife, aged 65 years, of M.D., Trinity College, Dublin, who has practised for 25 years in Ireland but for the last seven years has been confined in an asylum. During this time applicant has earned her living as companion or housekeeper. At present receives a home in a boarding house in exchange for services, but is obliged to leave on account of her age. No income. Recommended by Dr. H. M. Macnaughton Jones. Voted £12 in 12 instalments.

Daughter, aged 60 years, of late M.R.C.S., L.S.A., who practised in Staffordshire. Maintained herself for 20 years by teaching and was then matron at an institution but was obliged to give up the post on account of indifferent health. No income. Recommended by Miss Comming. Voted £5.

L.R.C.P., L.R.C.S. Edin., aged 49 years. Has practised in a small town in Scotland for 15 years, but is now almost incapacitated by spastic paralysis. Relieved twice, £24. Recommended by Dr. G. S. Middleton. Voted £12 in 12 instalments.

Widow, aged 52 years, of M.R.C.S., L.S.A., who practised in a London suburb for 30 years, but whose means were exhausted by a long illness before death. No income. Five children; two dependent, the others barely self supporting. Applicant endeavours to maintain herself by taking boarders. Relieved twice, £20. Recommended by Sir Anderson Critchett (vice-president). Voted £10 in ten instalments.

Daughter, aged 60 years, of late M.R.C.S., L.S.A., who practised for many years in Essex. Used to keep a school but was obliged to give it up after the opening of a high school and has since found great difficulty in supporting herself. No income, indifferent health. Relieved once, £10. Recommended by Dr. J. H. Galton. Voted £10 in ten instalments.

Widow, aged 31 years, of M.B., C.M. Glasg., who practised in county Durham. Two children, aged ten and nine years respectively, both at institutions. Income less than £20 a year; health at present too delicate for regular work and applicant is being temporarily housed by a relative. Relieved twice, £15. Recommended by Dr. J. Elliott. Voted £5.

L.R.C.P. Edin., M.R.C.S. Eng., aged 53 years. Practises in the South-West of London but earnings are very small owing to competition and indifferent health following an attack of hemiplegia. Seven children, aged from 20 to three years, only the eldest being self supporting. Relieved three times, £22. Recommended by Mr. Hugh R. Ker. Voted £5.

Daughter, aged 50 years, of late M.R.C.S., L.S.A.), who practised in London. No income; has maintained herself by nursing but is now quite incapacitated after rheumatic fever and is dependent on a niece who keeps lodgings to support a consumptive brother. Relieved three times, £27. Recommended by Dr. R. J. Ryle. Voted £10 in two instalments.

Daughter, aged 31 years, of late M.R.C.S., L.S.A., who practised in Yorkshire. Has done some nursing but during the last two years has undergone three or four operations and at present is quite unfit to earn her living. Slight help from relatives and the Gentlefolk's Aid Society. Relieved twice, £7. Recommended by Dr. E. Hyla Greves. Voted £12 in 12 instalments.

Widow, aged 52 years, of L.R.C.P. Irel., M.R.C.S. Eng., who practised in Liverpool. No income; no children. Endeavours to support herself by nursing but earnings insufficient for maintenance. Relieved four times, £20. Recommended by Dr. J. Bligh. Voted £5.

Daughters, aged 42 years and 34 years, of late L.S.A., who practised in Essex. Both incapable of earning a living on account of physical infirmities and dependent on a mother whose only income is a small pension. Relieved twice, £24. Recommended by Dr. R. T. Nichols. Voted £12 in 12 instalments.

Widow, aged 65 years, of F.R.C.S. Eng. Supported herself for many years by keeping a small shop but is now unable to work and is entirely dependent on an annuity from this Fund. Voted £5 as a special grant on account of ill health.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on Oct. 11th, Mr. HENRY MORRIS, the President, being in the chair.

It was resolved, on the recommendation of the museum committee, to grant an honorarium of £100 to Mr. William Pearson, prosector, in recognition of his valuable work and of his having completed 50 years in the service of the College.

It was decided that a revised edition of Part I. (Man) of the Osteological Catalogue should be published.

A draft copy of the annual report of the Council was submitted and approved. It will be presented to the Fellows and Members at the annual meeting on Thursday, Nov. 15th.

The President was re-elected a member of the committee of management.

The Council nominated as fourteenth Jenks scholar Mr. Godfrey Alan Walker, till lately a pupil of Epsom College and now a student at the London Hospital.

A letter was read from Mr. Edmund Owen, reporting his attendance as the representative of the College at the Quatercentenary celebrations of the University of Aberdeen and stating that he had presented the address of congratulation from the College and that he had had the honour of receiving the degree of LL.D. from the University.

It was resolved to appoint a committee to consider and to report on the standing rules and regulations of the Council and to submit a revised copy.

ELECTION OF DIRECT REPRESENTATIVES UPON THE GENERAL MEDICAL COUNCIL.

WE have received the following communications for publication, in reference to the forthcoming election of *Direct Representatives on the General Medical Council*:—

TO THE MEDICAL PRACTITIONERS OF ENGLAND AND WALES.

I had decided to withdraw my name from the list of applicants for the election of three Direct Representatives on the General Medical Council, and this decision has been mentioned in the *British Medical Journal* for Oct. 6th. The advice of professional friends, on whose judgment in this matter I rely more than on my own, has induced me to reconsider the question, and I now beg to offer myself as a representative of the profession on the General Medical Council.

For 13 years previous to 1888 I was a general practitioner at Hartlepool, and as medical officer to large clubs and friendly societies and medical officer of health to the borough and in private practice also, I obtained an extended experience of the requirements of ordinary everyday practice and practitioner. For the last five years I have been president of the Northumberland Medical Association now merged with the North of England branch of the British Medical Association and known as the Northumberland Committee. Its functions are limited to the advancement of the interests of its members directly, and indirectly of the medical profession in Northumberland. The work that has been done by us here, especially in increasing the fees for contract practice, has satisfied me that, if we know what we want and the whole profession coöperates in any reasonable demand, it will not, because it cannot, be refused.

There is one point on which I must offer a strong opinion. It has been urged that only those in practice as general practitioners should be appointed to fill the vacancies on the General Medical Council. It seems difficult to believe that this view can be held by any but a minority of the 20,000 voters on whom the result depends unless the invaluable services rendered by Sir Victor Horsley can be left out of consideration. In this part of the country we derived very great advantage from the help and coöperation of consultants and I feel strongly that to divide the profession into independent sections can only end in disaster. The coöperation of all is needful if any real and permanent improvement in the conditions of medical practice is to be obtained. I am acquainted with the work that has been done by the General Medical Council of late years and am fully in sympathy with the efforts that have been made to suppress disreputable forms of practice. Without, however, a new Medical Act passed on the lines adopted by the British Medical Association, I am of opinion that the chief evils from which the profession now undoubtedly suffers cannot be satisfactorily dealt with.

Yours faithfully,

Saville-row, Newcastle-on Tyne. RUTHERFORD MORISON.

To the Editors of THE LANCET.

SIRS,—In forwarding a copy of Mr. Rutherford Morison's address we should like at the same time to invite those cognisant of his magnificent work for the general practitioner in this part of the country, and who are wishful to see his abilities placed at the disposal of the whole profession, to send us their names to be placed on a general committee. We already have promises of very influential support from various parts of the country but would take as a favour an early reply to this general invitation.

We are, Sirs, yours faithfully,

EDWARD JEPSON, } Honorary Secretaries,
ALFRED COX, } *pro tem.*

Cotfield House, Bensham road, Gateshead,
Oct. 15th, 1906.

To the Editors of THE LANCET.

SIRS,—Will you please allow me to add (which I omitted in my address) that I have been adopted by the following societies as their candidate for election to the General Medical Council—the Association of Members of the Royal was passed to Professor Osler and the visitors afterwards proceeded to inspect the home. We take this opportunity of adding our congratulations to those already expressed in so many quarters to Miss Acland upon the success which has attended her efforts. The late Sir Henry Acland's love for anything connected with Oxford is too well known to need repetition, and nothing would have given him greater pleasure, had he been still here, than to see the additions to the home in which he took so great an interest.

THE Department of Public Health, Queensland, in a plague bulletin dated from Brisbane, Sept. 1st, states that no case of plague had occurred in Brisbane since June 20th but that 2 suspicious cases had been reported by the medical officer of Cairns, the one being a female, aged 40 years, and the other a female, aged 22 years. A dead rat had been found on the premises where the first-named had been living ten days previously to the onset of her illness. In a bulletin dated Sept. 8th these 2 cases were reported as having been definitely ascertained to be cases of plague; and 2 further cases had been reported during the week ending Sept. 8th, one of which had proved fatal on Sept. 6th. At the date of the bulletin no further cases had occurred and only one plague-infected rat had been found—namely, the one mentioned in respect of the woman aged 40 years.

A COURSE of eight lectures on the Carbohydrates and their Relations to Living Organisms will be given in the Physiology Department of University College, London, by Dr. S. B. Schryver, D.Sc., Ph.D., lecturer on Physiological Chemistry to University College, on Wednesdays at 5 P.M., beginning on Wednesday, Oct. 24th. These lectures are open to all students of the University of London, also to qualified medical men on presentation of their cards, and to such other persons as are specially admitted.

AT a meeting of the council of the county borough of Sunderland, held on Oct. 10th, it was decided that water, milk, and other foods should be examined bacteriologically and an agreement has been made with the University of Durham College of Medicine for the execution of the work.

THE first instalment of the Reports of the Advisory Committee for Plague Investigation in India has been issued as an extra number of the *Journal of Hygiene*. We hope to deal with the report at length in a future issue.

THE SEMMELWEIS MONUMENT IN BUDAPEST.

THE last day of September, 1906, will long be remembered by those representatives of the medical faculty of the world who gathered in Budapest to do honour to Semmelweis. It was an ideal day from the point of view of weather and he enormous crowd which gathered in Elizabeth-square at midday to witness the unveiling were most enthusiastic. But prior to this in the Aula of the University at 10.30 A.M. here was a meeting of distinguished personages representing many nations. Among those present were Count A. Apponyi, he Minister of Education, and other members of the Ministry; Dr. Chyzer, councillor of the Medical Department; Dr. Szabó, rector of the University of Kolosvár; Dr. Képes, irector-general of the Army Medical Department; and epresentatives from the Hungarian Academy of Sciences nd other learned bodies.

The visitors present from foreign countries were as ollows: from Vienna, Professor Schauta and Professor hrobak, Royal councillors; Professor Hertzfeld, Professor alban, Professor Mandl, Professor Laczkó, Dr. Fischer, and r. Schürer von Waldheim, the biographer of Semmelweis; om Basle, Professor Herff. von Salis; from Breslau, Professor Asch; from Copenhagen, Professor Fribiger; from Freiburg, Professor Wekerling; from Genoa, Professor Rossi; from Rome, Professor Pestalozza; from Messina, Professor Guzzoni del Ancerini; from Jena, Professor Schultze; and from London, Dr. Albert T. Duka, D.S.O. The widow and sister of Semmelweis and representatives of other families connected with him were also present. The proceedings were opened with a speech by the Rector Magnificus, Councillor Ajtai, who spoke of the great respect in which the memory of Semmelweis was held by the grateful citizens of his native city. Professor Bársony spoke in the name of the professors of the Faculty of Medicine of the University of Budapest. The speeches of the visitors from abroad then followed, Professor Schultze being the first, succeeded by Professor Schauta, Professor Fribiger, Professor Pestalozza, Professor Ancerini, Professor von Salis, and Dr. Duka.

The meeting then adjourned to Elizabeth-square where after the singing of the Hungarian National Anthem the statue was unveiled by Professor Tauffer. This beautiful statue is made of Carrara marble and is the work of the sculptor Strobl; it represents Semmelweis standing on a pedestal which is surrounded by naked figures of children supporting a wreath, while on the base sits a woman with an infant on her knee, looking up into the face of the statue with an expression of deep gratitude; the model for the woman was the sculptor's wife, Madame Strobl. Professor Tauffer in his capacity of President of the executive committee delivered an address dealing with the history of the movement which led up to the memorial. He said that in 1891 the faculty of medicine of the University of Budapest initiated the idea of the immortalisation of the memory of Semmelweis in order to give a visible token and expression of the debt due to the founder of the antiseptic treatment of child-bearing women and the discoverer of the etiology of puerperal fever. The first practical result of the movement was the return of the ashes of Semmelweis, which had found a resting place on foreign soil, to the Kerepes Cemetery, Budapest where a special tomb had been set apart for them. Following this the medical men of his native land erected an elaborate tombstone, after which an international appeal was made for the superb monument which now finds a place in Elizabeth-square. Steadily the money came in. Rich and poor alike enjoyed the privilege of erecting the statue, for rich and poor alike had enjoyed the boon of his discovery. The movement extended beyond the bounds of Hungary to all civilised states, seeing that the discovery and teaching of Semmelweis had become the public property of the medical science of the entire world and of humanity. In 1894 the members of the International Sanitary Congress meeting for its deliberations at Budapest placed a magnificent wreath upon the tomb of Semmelweis in the cemetery. Professor Tauffer then formally handed over the statue to the mayor as the representative of the municipality of Budapest. After wreaths had been placed on the statue by the family of Semmelweis and the representatives of learned societies the proceedings terminated with the singing of the Hungarian National Anthem. Following this a commemorative tablet was unveiled at the house in Buda in which Semmelweis was born.

Professor Bársony and Professor Tauffer gave a dinner to some 200 guests at the Park Club at which all the foreign visitors were present.

BRITISH MEDICAL BENEVOLENT FUND.

AT the September meeting of the committee 16 applications for help were considered and sums amounting to £137 were voted in relief. One case was passed over and the following is an abstract of those which were assisted:—

Widow, aged 58 years, of L.R.C.S. Irel., L.S.A. Dub., who practised in Staffordshire. Small capital available at husband's death has been spent on the education of children who are at present barely self supporting. Recommended by Dr. A. M. Edge (honorary local secretary). Voted £10 in two instalments.

Daughter, aged 58 years, of late M.R.C.S., L.S.A., who practised in Derbyshire. Has been given a home in return for services by a relative recently deceased, but is now practically destitute. Health very feeble. Recommended by Mr. W. J. Cooper. Voted £12 in 12 instalments.

Daughter, aged 35 years, of late F.R.C.S. Eng., who practised in London. No income and incapacitated by tuberculous disease of the right shoulder-joint. Relatives only able to give very slight assistance. Recommended by Professor Howard Marsh (vice-president). Voted £12 in two instalments.

gentlemen, it cannot be of the least use on the occasions that we are now contemplating.

Mr. Hunter's opinion, that "if it be necessary, from *fashion*, and so on, to carry the person in any particular manner, this habit may be attained at any period of life," if it be true, it is only in a very limited sense, and the circumstance that he mentions to prove the correctness of his opinion directly proves its *fallacy*; I mean the effect that is produced by the drill-sergeant, who transforms awkward countrymen into clever soldiers; and, as the investigation of this opinion will lead to a knowledge of the facts which ought to be understood, I trust that I shall be excused for employing some time in the investigation. . . . . .

The fallacy of Mr. Hunter's opinion seems to have been this: he saw that the strong arms of necessity and power compelled the most awkward of men to transform themselves into the most active, and, so far as personal exercises may go, the most accomplished; and, having seen this, he assumed that *therefore* those who had no motive to stimulate them to exertion but caprice, could *easily* produce similar alterations in their own persons. The fallacy must be felt as soon as it is mentioned.

Excerpt from "A Lecture on Muscular Action, delivered by Mr. Sheldrake."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8203 births and 4695 deaths were registered during the week ending Oct. 13th. The annual rate of mortality in these towns, which had declined in the five preceding weeks from 22·3 to 17·1 per 1000, further declined last week to 15·5. During the 13 weeks of last quarter the death-rate in these towns averaged 16·2 per 1000; the rate during the same period in London did not exceed 15·4. The lowest death-rates in the 76 towns during the week under notice were 6·6 in Reading, 7·2 in Hornsey, 7·6 in Aston Manor, and 8·8 in East Ham; the rates in the other towns ranged upwards to 23·7 in Gateshead and Preston, 24·8 in Swansea, 25·6 in Stockport, and 25·9 in Hanley. The 4695 deaths in the 76 towns showed a further decline of 497 from the decreasing numbers in recent weeks, and included 807 which were referred to the principal epidemic diseases, against numbers declining from 2570 to 1027 in the five preceding weeks; of these, so many as 550 resulted from diarrhœa, while 69 were referred to diphtheria, 65 to "*fever*" (*principally* enteric), 45 to measles, 43 to scarlet fever, 35 to whooping-cough, and *not one* to small-pox. The deaths from these epidemic diseases were equal to a mean annual rate of 2·7 per 1000 in the 76 towns, while the rate in London did not exceed 1·7. The annual death-rate from these diseases was below 1 per 1000 in Halifax, Hornsey, King's Norton, Hastings, and in four other smaller towns; while it ranged upwards in the other towns to 7·1 in Norwich, 7·3 in Stockport, 8·1 in Preston, 10·1 in Burnley, and 10·2 in Hanley. The deaths referred to diarrhœa (mainly of infants under one year of age), which had declined from 2242 to 775 in the five preceding weeks, further fell last week to 550; the annual death-rate from this disease during the week under notice was still so high as 6·0 in Warrington, 7·2 in Preston, 7·9 in Hanley, and 9·1 in Burnley. The 65 deaths referred to "fever" showed a further slight increase, and exceeded the number returned in any previous week of this year; they caused an annual rate of 1·2 in York, 1·4 in Hull, 1·6 in Stockport, and 1·7 in St. Helens. The fatal cases of diphtheria exceeded the number in any week since the middle of February last, and showed the highest rate of mortality in Wolverhampton, Salford, and Norwich; measles showed the largest proportional fatality in Bootle, Stockport, and Norwich; scarlet fever in Sheffield; and whooping-cough in South Shields. No case of small-pox was under treatment in the Metropolitan Asylums hospitals during the week, no case of this disease having been admitted thereto since the end of June. The number of scarlet fever cases under treatment in the Metropolitan Asylums hospitals and in the London Fever Hospital, which had increased in the six preceding weeks from 3042 to 3603, further rose to 3803 during the week under notice; 566 new cases were admitted to these hospitals during the week, against 473, 533, and 621 in the three previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 133 and 153 in the two previous weeks, were last week 187, and 26 below the corrected average in the corresponding week of the four preceding years, 1902-05. The causes of 45, or nearly 1 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, West Ham, Hull, Salford, and in 45 smaller towns; the proportion of uncertified deaths showed, however, a considerable excess in Liverpool, St. Helens, Preston, Sheffield, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 16·1 and 17·2 per 1000 in the two preceding weeks, *further rose to* 17·8 in the week ending Oct. 13th and exceeded by 2·3 the mean rate during the same week in the 76 English towns. The rates in the eight Scotch towns last week ranged *from* 11·1 in Greenock and 12·6 in Perth to 19·2 in Glasgow and 19·9 *in* Dundee. The 639 deaths in the eight towns showed a further increase of 21 upon the numbers returned in recent weeks, and included 96 which were referred to the principal epidemic diseases, against numbers declining from 136 to 77 in the four preceding weeks. These 96 deaths were equal to an annual rate of 2·8 per 1000, which was 0·1 above the rate from the same diseases in the 76 English towns. Of these 96 deaths, 56 resulted from diarrhœa, 17 from whooping-cough, ten from "fever," six from diphtheria, four from scarlet fever, three from measles, and not one from small-pox. The 56 deaths referred to diarrhœa in the Scotch towns exceeded the number *returned in the* previous week by seven, and included 32 in Glasgow, nine in Dundee, and six in Edinburgh. Of the 17 fatal cases of whooping cough, 15 occurred in Glasgow and two in Dundee. The ten deaths referred to "fever" were within one of the number in the *previous* week; five were returned in Glasgow (including three certified as cerebro-spinal meningitis) and three in Dundee. Two fatal cases both of measles and of scarlet fever occurred in Glasgow. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 66 and 72 in the two previous weeks, further rose to 80 last week, but were 24 below the number returned in the corresponding week of last year. The causes of 25, or 4·1 per cent., of the deaths registered during the week were not certified; the mean proportion of uncertified deaths in the 76 English towns during the same week was rather less than 1 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 24·5 and 26·0 per 1000 in the two preceding weeks, declined to 23·7 in the week ending Oct. 13th. During the 13 weeks of last quarter the death-rate in the city averaged 21·4 per 1000, the mean rate during the same period being only 15·4 in London and 13·1 in Edinburgh. The 172 deaths of Dublin residents during the week under notice showed a decline of 17 from the number in the previous week, and included 20 which were referred to the principal *epidemic diseases*, against numbers declining from 52 to 22 in the five preceding weeks; these 20 deaths were equal to an annual rate of 2·8 per 1000, the death-rate *during* the week from the same diseases being only 1·7 in London and 1·4 in Edinburgh. These 20 deaths from epidemic diseases in Dublin included 12 from diarrhœa (against 31 in each of the two previous weeks), four from "fever," two from whooping-cough, one each from measles and diphtheria, and not one either from small-pox or scarlet fever. The four deaths referred to "fever" showed a marked increase upon recent weekly numbers. The *deaths of infants* were fewer than in any week since the beginning of August. *Four inquest* cases and six deaths from violence were registered; and 69, or 40·1 *per cent.*, of the deaths occurred in public institutions. The causes of seven, or 4·1 per cent., of the deaths registered during the week were not certified; the proportion of uncertified deaths last week was 0·2 per cent. in London and 7·3 per cent. in Edinburgh.

College of Surgeons of England, the Incorporated Medical Practitioners' Association, and the Association of Physicians and Surgeons of the Society of Apothecaries of London?

I am, Sirs, yours faithfully,
JOSEPH SMITH, J P., M.R.C.S. Eng., L.M.,
Oct. 15th, 1906. L.S.A. Lond., D.P.H. Camb.

To the Editors of THE LANCET.

SIRS,—I read with interest the election address of Dr. Leonard Strong MacManus, a candidate for election of Direct Representatives upon the General Medical Council, published in your issue of Oct. 13th. In one portion of this address Dr. MacManus says: "I am familiar with club, contract, and dispensary work, and knowing only too well how we are sweated in these directions, I have, and would again, support any duly considered scheme to enable us to obtain fair payment for our services."

Well, charity begins at home, and there is in Battersea a "provident dispensary," I believe the largest in London, if not in England. Its membership numbers between 20 000 and 25,000 and its contributions (painted in bold letters on the walls of its principal building in High-street Battersea) vary from ½*d.* to 2*d.* per week. There are some members belonging to it who rent houses at £35 a year, exclusive of rates and taxes, and it is the opinion of the bulk of the members of the medical profession in the locality that it is grossly abused. The work of this huge organisation is divided between 12 or 13 of the local practitioners, and Dr. MacManus is one of the most influential of these. Some of these practitioners have on their books between 6000 and 7000 members, and receive a remuneration of between £600 and £700 a year! And, moreover, to say the least, it is a bit difficult for other general practitioners in the locality to find themselves amongst the favoured few who control this supposed charity; and it is still more difficult for them to compete with such a monopoly and consequently each day they find their oldest patients being absorbed by this institution.

Now I would suggest that a couple of dozen of the general practitioners whom Dr. MacManus wishes to represent—especially those engaged in London working-class practices—should visit Battersea and go amongst the general practitioners there and ask their opinon as to this dispensary. It would be interesting to hear their views and also to know how they would vote at the forthcoming election. I have now, personally, no interest in any Battersea practice and write quite impartially and only because I think it right and reasonable that expressions of opinion on the merits and demerits of the situation should be made by medical practitioners at a period like the present, when an election of some importance to the profession is pending.

Trusting you will find space in your columns for this letter,
I remain, Sirs, your obedient servant,
Wandsworth-road, S.W., Oct. 16th, 1906. M. S. HARFORD.

At the first meeting of the Wimbledon and District Medical Society for the session 1906–07, held on Oct. 12th, Dr. MacManus attended and addressed the members. A motion expressing confidence in Dr. MacManus and promising him the support of the members was unanimously carried.—At a largely attended meeting of the South-West London Medical Society held on Oct. 10th a similar resolution was passed.

THE DUTIES OF PUBLIC VACCINATORS.—At a meeting of the St Columb (Cornwall) board of guardians, held on Oct. 11th, a letter was read from the Local Government Board in reference to certain complaints which had been made by its inspector against one of the public vaccinators of the union. The circumstances have been already alluded to in THE LANCET of Sept. 22nd, p. 788. The communication stated that the letter of the public vaccinator was very unsatisfactory. He did not deny the accuracy of the representation as to his giving certificates of postponement upon slight grounds and the Board could not accept his statement as to his inability to furnish information required in connexion with the certificate of insusceptibility to vaccination which he had given for his own child. In conclusion, the Local Government Board urged the guardians to reconsider the appointment of this officer. After some discussion it was decided by 18 votes to 7 to inform the Local Government Board that the guardians would do nothing further in the matter]

Looking Back.

FROM

THE LANCET, *SATURDAY*, Oct. 18th, 1828.

I must premise that an erroneous opinion has very generally received more attention than it deserves, because it has been attributed to Mr. Hunter. He is reported to have said, "I am convinced that people get awry by the endeavours of parents to keep them straight; that parents were continually watching their children, and making them sit in a particular attitude, and that these children so watched, when unobserved, would naturally sink into another way of sitting to have a little ease. Besides, *that is keeping in action one set of muscles and not allowing the other to act at all, whereas, every set of muscles should be kept in action.*" He said "you don't see boys grow awry anything like so often as girls, nor yet girls in a low situation in life."

Again, Mr. Hunter said, "If it be necessary, from fashion and so on, to carry the person in any particular manner, this habit may be attained at any period of life, and quoted this instance: you see a ploughboy, while plodding at the plough, an awkward fellow; but he enlists; then he is put under a drill sergeant; and then observe with what care and precision he marches, after he has been under the care of that sergeant for a time. Now this shows that, if the body is well formed, it may carry any fashion, but there is certainly no counteracting nature."

Mr. Hunter said, "you should dress your children lightly and loosely, let them run about and exercise all their muscles equally, and then they would not grow awry. To this parents have a sort of objection: which is, that children will grow round shouldered, and so on. Now I have endeavoured to refute that absurdity, by saying, that, if children were suffered and allowed to do as they please, the body would be formed according to that pattern which nature designed it should be."

I have placed these opinions together, because they were the opinions of Mr. Hunter, and, as such, are entitled to much respect. Trusting to my own memory for correctly remembering these opinions, as I heard him deliver them, I think there were shades of distinction between his real opinions, and what are here given as such; yet, with this abatement, they may be taken as the best opinions that were entertained upon these subjects in those days.

That the drill-sergeants, in Mr. Hunter's time, frequently transformed very awkward, clumsy, and even stupid, clowns, into smart, active, and clever soldiers, is undoubtedly true, and proves that the opinion of those who say that such defects cannot be cured even after the patients have arrived at maturity, is erroneous. In those days I passed much of my time on the south side of St. James's Park, where I gained both knowledge and amusement, by observing the effects that were produced by forcing military knowledge into raw recruits.

However awkward, clumsy, or ill-formed, the recruit might be, there was but one process used to convert him into a well-made active soldier: the mode of conducting that process might vary according to circumstances when it was applied to different men, but its essential qualities were, in every case, the same; that was, to force or strain himself by whatever exertion it might be necessary for him to make, till he had twisted himself into that shape and position which his sergeant determined that he should assume; a task which was very difficult, and attended with great pain and difficulty to the unfortunate recruit. I have seen a man undergoing this discipline roaring with pain, like an unfortunate child that had been severely beaten. Yet I always saw that the sergeant was victorious, and converted his pupil into an effective soldier; his recipe was infallible; it was punishment, or, at least, the fear of it. The recruit knew full well that if he did not do what he was directed to perform, he would certainly be punished according as he was deficient, and the business did not end here; for, if he again failed in executing the required manœuvre, he would be again punished, and so on, till he did execute what was required of him: this was an infallible method of fixing knowledge in the minds of those who were obliged to learn; but as it cannot be applied to the sons or daughters of methods and that there is hope that with an extended knowledge of localisation we shall find early surgical treatment of still greater use and that just as recent abdominal surgery has been the result of more accurate knowledge of pathological processes and of advanced methods in surgery, so we may hope for similar good results with cranial interference. It was not because abdominal surgery has been successful that I mentioned the subject in connexion with operative treatment in insanity. My object was to illustrate how timorous and tardy interference in one department had given place to opportune and speedy success in that region, and I think, from illustrations and given references, that I am justified in urging that surgical methods are worthy of consideration in our attack on conditions which in too many instances terminate in hopeless confusion. Cranial surgery is to be employed not because abdominal surgery has been successful but because it (cranial surgery) has been already proved of service in the treatment of insanity, and I trust that the "roving surgeon" may open up to us new ground for treatment and will not be deterred from exploiting this territory by Dr. Mercier's warning that "trespassers will be prosecuted."

I am, Sirs, yours faithfully,

Harley-street, W., Oct. 15th, 1906. T. CLAYE SHAW.

PURIN-FREE DIETS.

To the Editors of THE LANCET.

SIRS,—In Dr. W. A. Potts's interesting "Notes on Purin-Free Diets" he states that "the Romans at the time they conquered the world were vegetarians." I think Dr. Potts would be greatly puzzled to cite any authority in support of such a statement. Doubtless the early pastoral people of Latium lived largely on lentils and fruit, but the dauntless legions who followed the Roman eagle were coarsely omnivorous. Whether toiling through Syrian deserts or racing over the Apennines or Alps every soldier carried a supply of cured pork, cheese, and flour, usually a sufficiency for 12 days when commencing a march. The wealthy Roman classes were carnivorous to a degree not to be measured by modern appetites: "edunt ut vomant, vomunt ut edant."—I am, Sirs, yours faithfully,

Worthing, Oct. 15th, 1906. W. W. JONES.

FOOD PRESERVATIVES.

To the Editors of THE LANCET.

SIRS,—There are some other considerations arising out of the use of food preservatives to which, without prejudice to their proper employment, I think reference should be made. For instance, in the case of patients suffering from chronic and other intestinal disorders it would, under the new order of things, be desirable for them to ask their medical attendants explicitly, as they often do about sugar, pepper, sauces, and other common articles of diet, whether boric acid, benzoic acid, formaldehyde, salicylic acid, sulphate of copper, alum, and other ingredients that might be mentioned, should or should not be also taken with their food and if so in what dosage and at what times.

Not being a physician I am ignorant as to whether the latter information is usually volunteered or required in the consulting-room or is it only forthcoming when symptoms of drug absorption are obviously present? It must, I should think, not infrequently increase the difficulties of treating a disorder if in addition to the medicines the patient is receiving from his adviser he is taking others, though their full physiological effects may not be apparent, from the food merchant. "See that the action of all drugs is suspended before new ones are prescribed," was a frequent remark by one of my most respected and experienced teachers. Why should not all foods which are adulterated be so labeled? Then the salesman and purchaser would be quits.

I am, Sirs, yours faithfully,

Berkeley-street, W., Oct. 13th, 1906. REGINALD HARRISON.

THE RECENT SENATORIAL ELECTION AT THE UNIVERSITY OF LONDON.

To the Editors of THE LANCET.

SIRS,—As one of those who, although a London teacher, nominated Dr. E. G. G. Little, and took an active part in his return, I rejoice at the result. It should stay the iconoclastic tendencies of those in authority at the University of London, for the changes initiated in the curricula for degrees in medicine and surgery have without doubt been the outcome of panic induced by the falling off of students of medicine in the metropolis. Now all legislation consequent upon panic is dangerous, and the danger in this instance is intensified on reading the report of the standing committee of Convocation on these changes. Our University has won and kept its high position in the medical world by the general and scientific training of its graduates as well as by their professional knowledge. Under the new *régime*, by the introduction of numerous by-paths to admission, the general education and scientific training are reduced to a valueless minimum, and even the medical examinations can be taken piecemeal—i.e., subject by subject. By catering for quantity at the expense of quality our University, I feel sure, will not attract as some think those students who now naturally gravitate to the provincial universities, but will lose its present popularity and undermine its very foundations. Decentralisation in medical education, with the ever increasing facilities for scientific and clinical training which the provincial schools afford, has come to stay. If the London University degree is to be esteemed in the future as it has been in the past, it can only be by maintaining unimpaired its high standard of general and scientific training and its high examinational tests. I am, Sirs, yours faithfully,

London, W., Oct. 11th, 1906. ERNEST W. WHITE.

ANTIVACCINATION TACTICS.

To the Editors of THE LANCET.

SIRS,—I thank you very much for so promptly supplying a copy of your current issue containing a complaint from the editor of the *Cleveland Medical Journal* of a supposed infringement of his conditions of republication. This is the first, and so far, the only, intimation I have received of Mr. Carter's dissatisfaction with my conduct, which is a purely personal responsibility and not in any way chargeable upon the antivaccinists' cause in general.

The complaint that an equally conspicuous space was not afforded to his letter is very debatable, for a special appendix is devoted to it; however, I submit a copy of the booklet for your examination and respectfully direct your attention to the following points: 1. The three and a quarter small pages derived from the report of the *Cleveland Medical Journal* were originally copied from the reprint in the *Vaccination Inquirer* of September, 1902, vol. XXIV., p. 119. All I used the *Cleveland Medical Journal* for was to correct the excerpt so that its accuracy might place it above the charge of garbling. This appeared desirable because the paragraph in the *Vaccination Inquirer* was itself a reprint from the *Philadelphia Item* and *Medical Talk*; and I believe I am indebted to the publishers of the *Cleveland Medical Journal* for the copy of their journal by means of which the corrections were made. Thus it will be seen that the paragraph is, in reality, simply a corrected reprint from the *Vaccination Inquirer*, with one and three quarters small pages from *Vaccination Superstition*. 2. In his complaint Mr. Carter has omitted to give a copy of my letter of request and a copy of the note in the appendix named. These were:—

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> SIR,—Please accept my very best thanks for the copy of your No. 2 issue, with Dr. Friedrich's paper in. Can you allow me to reprint this (complete with the discussion) in a booklet of *debates* on the subject? Duly acknowledged of course.
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> Yours respectfully,
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It will thus be seen that the "*Debates*" for which permission to reprint the report *in toto* was obtained has yet to come;

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: P. M. May to the *Hannibal*, on commissioning, and M. J. Smith to the *Fisgard*. Surgeons: A. F. Mackay to the *Pembroke*; and C. R. Rickard to the *Shearwater*, additional, and on recommissioning.

ROYAL ARMY MEDICAL CORPS.

Captain E. T. F. Birrell is appointed Adjutant, Depôt and Training School, Royal Army Medical Corps, Aldershot. Lieutenant-Colonel E. L. Maunsell is appointed Administrative Medical Officer at Bloemfontein.

IMPERIAL YEOMANRY.

Royal North Devon (Hussars): Stanley Rider Gibbs to be Surgeon-Lieutenant (extra), under the conditions of paragraph 28, Imperial Yeomanry Regulations (dated Oct. 13th, 1906).

VOLUNTEER CORPS.

Rifle: 1st Volunteer Battalion the Royal Fusiliers (City of London Regiment): Surgeon-Major H. G. Thompson to be Surgeon-Lieutenant Colonel (dated Sept. 4th, 1906).

DEATHS IN THE SERVICES.

Inspector-General Evelyn Richard Hugh Pollard, R.N., on Oct. 9th, from heart failure. He had been in charge of the Royal Naval Hospital, Chatham, from June, 1905. He entered the Royal Navy as a surgeon in 1878, became a staff surgeon in 1882, fleet surgeon in 1891, deputy-inspector-general in 1899, and inspector-general in 1904. When surgeon of H.M.S. *Boadicea* he landed with the Naval Brigade during the Zulu War in 1879. He also served with the Royal Marines in Egypt in 1882, and was present at the battle of Tel-el-Kebir (Egyptian medal, Tel-el-Kebir clasp, and Khedive's bronze star). Inspector-General Pollard had been in failing health for some time and leaves a widow and four children.

Lieutenant-Colonel George Edward Elton Burroughs (retired), I.M.S., recently, at the age of 56 years. He joined the service in 1875 and served in the Afghan War of 1878–80, including the action of Kushk-i-Nakud, the affair at Girishk, the battle of Maiwand, the sortie from Kandahar, and the defence and battle of Kandahar (mentioned in despatches, medal with clasp).

Brigade-Surgeon Lieutenant Colonel Caleb Shera Wills, C.B., A.M.D. (retired), on Oct 12th, in his seventy-third year. He entered the service in 1866 as assistant surgeon and reached the rank of brigade surgeon in 1887. He retired two years later. In the Zulu War of 1879 he served as senior medical officer at the base of operations and of the lines of communication between Durban and the Lower Tugela and also as sanitary embarking and disembarking medical officer (medal and C.B.).

QUEEN ALEXANDRA'S IMPERIAL MILITARY NURSING SERVICE.

A tablet has been placed in the chapel of the Royal Herbert Hospital, Woolwich, to the memory of Nursing Sister Margaret Kendall, who died in April last while on service with the troops at Wynberg, South Africa.

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

The October number of this journal contains numerous original communications and articles on a variety of subjects, all of which are of more or less interest to army medical officers and those connected with the public medical services. It is needless to enumerate all the titles of these, but we may refer to a paper by Major R. F. E. Austin, R.A.M.C., on "Defects of the Present System of Respiratory Training for the Soldier, with Hints towards its Improvement," because its author, in addition to what he has to say on the subject, calls attention to an interesting and carefully reasoned paper by Lieutenant-Colonel F. Arthur Davy, R.A.M.C. (retired), published in the Army Medical Report for 1876, entitled "A Contribution to the Etiology of Heart Disease in the Army." The author of this dwells upon the injurious effect produced by the usual chest swelling "setting-up drill" so dear to drill sergeants.

CHORAL SINGING IN THE ARMY.

The movement for the institution of choral singing in the army is a good one and Surgeon-General G. J. H. Evatt is deserving of credit for the zeal and energy with which he has taken part in it. We notice that at a recent meeting at Aldershot under his presidency it was unanimously resolved to form a soldiers' musical union "to aid in the encouragement of music among soldiers." Not only are regimental choral societies and the singing of national ballads likely to keep alive a spirit of loyalty and enthusiasm and prove a source of cheeriness, as they always do, on the march, but the love of music and the cultivation of the voice are also wholesome and healthful objects.

It has been decided by the Army Council that the names of former officers no longer liable to service, of pensioners, and of civilians who are willing on mobilisation to render their services, at home or abroad, with the Army Service Corps, Royal Army Medical Corps, or Army Ordnance Department shall be registered in each command.

Colonel Haga, the principal medical officer of No. 5 Division of the Imperial Japanese Army, is visiting the depôts and hospitals at Aldershot.

Correspondence.

"Audi alteram partem."

OPERATIVE TREATMENT IN INSANITY.

To the Editors of THE LANCET.

SIRS,—Dr. Mercier's analogy between "lowering the ritual of a church by taking some of the slates off the roof" and the operation of trephining to relieve a diseased brain, though not very apposite, was perhaps good enough as a *jeu d'esprit* for the mere purpose of a debate. May I now use his metaphor for my own purpose? If there is reason to suppose that something is wrong with the services it would probably be the only way—other modes of inspection being inaccessible—to obtain evidence of the "lowered ritual" (whatever that may mean) and of correcting errors in it; it would certainly be better than relying upon rumour and guesswork for knowing what was going on within. Dr. Mercier details six "suppositions" in which he puts my case so clearly that it is not necessary for me to say more than that they have already passed out of the domain of hypothesis and have become accomplished facts.

I have seen a case in which the hallucinations (as shown by post-mortem examination) were accompanied by a very definite lesion in the correlated sensory area, and the connexion between the symptoms and the diseased centre was, as far as could be judged, a causative one, and I can only regret that surgical measures were not taken during life and remedies applied. But I can go farther than this, and quote a case (among others) detailed in the *Journal of Mental Science* for 1902, p. 694, by Mr. Damer Harrisson, in which that gentleman operated upon a man suffering from non-traumatic melancholia. In this case the hallucinations disappeared after an opening three inches long by two and a half inches wide was made over the sensory centre implicated, and the result was recovery in three weeks, the melancholia and the hallucinations disappearing completely. When I read before the Medico-Psychological Association a paper on the "Surgical Treatment of Delusional Insanity," pointing out that it was probable that in some instances hallucinations preceded and were directly connected with delusions, and that it was advisable to determine early if possible the nature and the primary local signature of the hallucination, I was not aware of Mr. Damer Harrisson's successful work in this direction. I subsequently received a letter from Mr. Harrisson in which he says: "In defective-minded children I find that *in many instances the primary local signature may be identified.*"

Again, a short time since, Mr. Sheild and I reported in THE LANCET a case in which acute mental symptoms were completely cured almost immediately after the operation of trephining. In this case the original lesion was traumatic but there was no external trace of what was actually found—viz., a fissure in the internal table, the connexion of which with the mental symptoms was not so clear, though the result of the operation was so immediate as to leave no doubt of its efficiency.

I think, from what I have stated, that there are in well-considered instances grounds for the employment of surgical methods and that there is hope that with an extended knowledge of localisation we shall find early surgical treatment of still greater use and that just as recent abdominal surgery has been the result of more accurate knowledge of pathological processes and of advanced methods in surgery, so we may hope for similar good results with cranial interference. It was not because abdominal surgery has been successful that I mentioned the subject in connexion with operative treatment in insanity. My object was to illustrate how timorous and tardy interference in one department had given place to opportune and speedy success in that region, and I think, from illustrations and given references, that I am justified in urging that surgical methods are worthy of consideration in our attack on conditions which in too many instances terminate in hopeless confusion. Cranial surgery is to be employed not because abdominal surgery has been successful but because it (cranial surgery) has been already proved of service in the treatment of insanity, and I trust that the "roving surgeon" may open up to us new ground for treatment and will not be deterred from exploiting this territory by Dr. Mercier's warning that "trespassers will be prosecuted."

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It will thus be seen that the "*Debates*" for which permission to reprint the report *in toto* was obtained has yet to come;

at present it is in manuscript only; when it is printed, Mr. Carter's conditions will not be intentionally disregarded; and meanwhile I may point out that the aforenamed appendix was inserted from a somewhat supersensitive desire to conform to the wishes of the editor of the *Cleveland Medical Journal*, the matter as appearing in the booklet of which he complains really consisting only of reprints from other journals.

Yours respectfully,

Stone, Staffs, Oct. 13th, 1906. WM. J. FURNIVAL.

STAMMERING AND ITS TREATMENT.

To the Editors of THE LANCET.

SIRS,—Several inquiries having reached me as to whether Dr. R. A. Worthington, in the excellent article on stammering which appeared in THE LANCET of Sept. 22nd, p. 789, had correctly presented my views on the subject, will you allow me to say, for the benefit of any other inquirers, that there is only one point on which he has made a slight error? Dr. Worthington said: "Of the universal exemption from stammering when singing there is no question." This statement was due to an unintentional omission on my part. When giving him the information he had asked me for in order to help him with his graduation thesis it escaped my memory to supply him with the necessary data of a certain number of cases of stammering while singing, constituting, I find, about 2 per cent. of the whole number. They were all traceable to faulty breathing, therefore the general scope of the argument on the causation of stammering was in no way invalidated.

I am, Sirs, yours faithfully,

Earl's Court-square, S.W., Oct. 15th, 1906. R. BEHNKE.

THE
FREE FEEDING OF SCHOOL CHILDREN AT MILAN.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

FREE MEAL EXHIBITS BY ITALIAN TOWNS AT MILAN.—MILAN MUNICIPALITY BEGINS WITH BREAD AND SALAME.—GRADUAL INTRODUCTION OF HOT MEALS.—THE COST.—THE CONDITIONS OF GRATUITOUS MEALS.

Milan, Oct. 6th.

AT the Milan Exhibition there is a long pavilion specially devoted to educational questions. In it are many exhibits that concern the sanitation of schools and the health, growth, and physical development of the children. Naturally there is the old question of school furniture, the providing of desks and chairs of varying height according to the different sizes of the children. Then there are physical exercises, gymnastics, dancing lessons, and other methods of rendering the children strong, supple, and graceful. All these and many other matters, illustrated by specimens, by drawings, or by photographs, have been the subject of innumerable exhibitions in different parts of the world. The necessity of such appliances and methods is no longer a matter of doubt or dispute. But it is only of comparatively recent years that the educational authorities and the public generally have commenced to realise the futility of mental teaching and physical training when the child is insufficiently or unsuitably fed. At no period, presumably, could anyone have supposed that education without food was possible. Still, it was only after compulsory and almost universal education had been enforced for some considerable time that medical and other evidence was forthcoming to prove that a considerable number of children were rendered physically unfit and could not profit by their education because they were insufficiently fed. At first only a few charitable people and institutions attended to this matter. The insufficiency, untrustworthiness, inequality, and sometimes the wasteful extravagance of these charitable undertakings soon demonstrated that no mere individual efforts could solve what is really a national problem. This has been the experience of several countries as I have already related when giving the history of the Paris *cantines scolaires* and the feeding of the children in the communal schools of Brussels.[1] In Great Britain, as is known to all, the matter is ripening for legislation and Mr. Birrell advocated in the House of Commons the adoption of a system very similar to that in existence at Paris, of which I have given a description.[2] As in Italy there is widespread poverty the problem in that country is equally urgent.

A visit to the Milan exhibition suffices to demonstrate that the importance of the question is appreciated and that some notable efforts have been made to meet these requirements. Among the school exhibits in the Italian section there are reports, pictures, and photographs dealing with the *refezione scolastica* which is the Italian for what the French call the *cantines scolaires.* Perhaps when the thing exists in England we shall invent a word for it; in the meanwhile we must perforce content ourselves with talking vaguely about feeding the children. Nor is it only in the progressive north of Italy that such measures have been studied and applied. It was a pleasure and surprise to find that the first photograph that I saw of children enjoying a meal at school was that of the *refezione* at Palermo in the far south. Here in a broad passage a long narrow table had been placed and it reached breast high, so small were the little girls standing on each side. But another photograph showed the boys comfortably seated in a large square room at different rows of tables. At Padua a passage has also been utilised, though this time it was boys and not girls who were standing at a table, and it is easy to see they were partaking of the national dish—macaroni. The commune of Brescia has photographs indicating that, according to the weather, the children dine either indoors or out of doors. It is a happy sight to see, be it only in a photograph, these children sitting under a graceful arcade or *portici*, sheltered from the sun while enjoying the open air and their daily meal. The San Remo school, which sends a photograph, has tables but no seats. The same can be said of Lodi, but at Bologna again we find the meals in the open air. The urban school of Aurora feeds 500 children in one single very large room. Several of these places also send photographs of the kitchens and kitcheners in which the meals are cooked.

A few steps further on are the school exhibits from Great Britain but here there is no trace of an attempt to feed those who most need food. On the other hand, there is a photograph of the dining hall at Newnham College, Cambridge. This, too, is within a few feet of the exhibition of l'Œuvre des Voyages Scolaires des Reims where poor French children are photographed taking their meal under some fine old trees. It would be in better taste to have withheld the photograph of the dining-hall provided for the young ladies who can afford to be educated at the University of Cambridge till such time as other photographs were forthcoming illustrating that Great Britain was not behind Italy in caring for those who are not so fortunately situated. The young ladies are not compelled by law to go to Newnham College; but the children of the poor, however insufficiently fed, must go to the primary schools. Therefore in the Italian section there are no pictures to indicate how the students who voluntarily attend universities are fed, but there are many photographs to prove the concern which is shown to insure that the poor who attend the elementary schools shall have at least a little food.

Unfortunately, it is but a little food. Perhaps we must be thankful for small mercies and allowances must be made for an institution which is only at the beginning, at the experimental stage of its existence. But I must confess that I was not a little disappointed when I found out how very small is the quantity of food actually given. As it was in Milan that I had seen these exhibits it was only natural to inquire first what the town of Milan itself had done in this respect. Consequently I called upon Senator the Marquis of Ponti, the Mayor of Milan, who received me with the greatest courtesy and introduced me to Signor E. Moiana, superintendent of the educational department of the Milan municipality, with whom I had lengthy interviews. It soon became apparent that at Milan, as in so many other places, the authorities, while recognising the necessity of feeding the children, were loth to take upon themselves the trouble and responsibility of such a service. There existed what are called committees of patronage, constituted to help in the general work of education, and the municipality fondly hoped to get out of the whole difficulty by voting an annual subvention of £4000 to these committees. Experience soon proved that this did not work and it was indispensable that the education authority should itself take the matter in hand.

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[1] See THE LANCET, Sept. 17th, 1904, p. 860, and August 5th, 1905, p. 406.

[2] Loc. cit.

There are, however, in such a question technical points involved with which municipal councillors are not necessarily familiar. It was resolved that a committee of nine municipal councillors should be appointed with the mayor as president. This committee was empowered to select specialists to help it; for instance, persons who were authorities on cooking or on the choice and purchase of food. Three such selected assistants could be appointed by the committee of nine to watch over each school. Thus the entire administration is in the hands of the municipality and its nominees. The number of children who are inscribed and supposed to attend the Milan primary schools is 46,000 in round figures. The question at once arose as to how many of these children would need to be fed at school, how many could go home for their midday meal, and what proportion would have to be fed gratuitously. Of course these figures were not ascertained at once and in the course of time modifications occurred. It is not necessary, however, to give other than the most recent figures so as to make known the actual situation.

As already stated, the municipality had estimated the outlay at about £4000 but it soon found that this was not enough to allow the expenditure of only 1*d.* per head per meal. Then there were no dining rooms, no kitchens, no plates, and nothing whatsoever in which any sort of cooking could be attempted. Therefore it was decided to commence by giving a cold collation and for this purpose it was thought that 100 grammes of bread would suffice (113·4 grammes equal ¼ pound). It was soon found that this was only sufficient for the first and second classes. In the third class 120 grammes of bread are now given and 150 grammes to the fourth and fifth classes or forms, but at first smaller quantities were tried. Then came the question as to what the children should eat with their bread; and *salame* was the natural answer, for this is precisely what a workman in the majority of cases would ask for to help him to eat dry bread. It is the staple article of food throughout the country and is the ever-ready substitute for ordinary meat when the latter cannot be readily procured or prepared. Whether it is suitable as a permanent article of diet for children is a very doubtful matter. In any case it is tasty and artistically prepared. So much is this the case that in London it is sold as a delicacy in the "delicatessen" shops. One or two very thin slices of this sausage serve as an appetiser at the commencement of a banquet and it costs in London 1*s.* 4*d.* a pound. It has a perfume of garlic and is made of cured but not of cooked pork. What is served as a delicacy in England constitutes about the cheapest form of meat that can be given to the children who are fed at the public expense in the primary schools of Italy. But there is another sort of sausage which has the shape of a huge water melon. It is like the Mortadelle sausage but not so good, and this also is served to the children, but it is boiled. Therefore, it absorbs some water, so that a larger quantity must be given. Here, however, is the typical allowance made at one of the Milan schools where there is only a cold collation. With the amount of bread mentioned above on Mondays, 20 grammes of *salame*; Tuesday, 30 grammes or one ounce of cheese; Wednesday, 25 grammes of cooked sausage; Thursday is the holiday. On Friday there are 22 grammes of chocolate, and on Saturday again 20 grammes of *salame*. Of course, though I use the word sausage, I mean a perfectly firm meat and not the sausage with which we are familiar in England.

These cold collations, I must hasten to add, are not approved. All that is said in their favour is that they are better than nothing. The building of kitchens and dining-rooms, the purchase of the necessary crockery, and the training of cooks are matters requiring time and, above all, more money than can readily be obtained. Still, a beginning has been made. There are now six of the largest schools in Milan where hot meals are supplied to 4500 children, or about 10 per cent. of the total number of children attending the schools. Hot meals will be introduced into two more such schools next year and these, the most favoured of the schools, are in the poorest quarter of the town. At these hot meals feeble children are often given eggs. The amount of meat allowed, whether it is boiled or roasted, is generally 25 grammes, or a little less than an ounce, weighed after it is cooked. The ration of cooked macaroni is 240 grammes, rather more than half a pound English weight. Of course it contains a good deal of water. Of *risotto* even more is given—namely, 275 grammes. When will it be possible to have *risotto* in England elsewhere than at an Italian restaurant? Why should the British housewife refuse to cook rice in an equally appetising manner? We have to pay large sums in England and go to special restaurants to obtain what is given to the poorest children in Italy. Then when meat is cooked with potatoes 55 grammes are given. The cost for this food per kilogramme is in francs or *lire*, for *salame*, 2.80 francs; for cooked sausage, 2.95 francs; for gruyère cheese, 1.85 francs; for roast veal, after it is cooked, 4.80 francs; for *lesso* or boiled meat, 2.75 francs; for chocolate, 2.40 francs; for bread, 35 centimes; for rice, 39 centimes; and for Neapolitan pastes or macaroni (and these are the best), 46 centimes the kilogramme. Thus, wheaten flour consumed in the form of macaroni is about 25 per cent. dearer than bread, but how much nicer when artistically flavoured, and the poorest of Italians know how this should be done.

Though it is stubbornly affirmed that there is no such thing as trichinosis in Italy nevertheless it is the custom to give the cooked sausage twice in summer for once that the uncooked is given and the reverse is the case in winter. Unfortunately, the cooked sausage is not liked and cheese is preferred. Indeed, the boys as a rule prefer cheese or chocolate. It has been calculated that the cold collation only costs on an average 9 centimes per head, though in some schools they manage to spend 13 centimes. The municipality made arrangements with 50 bakers for the bread and 60 pork butchers for the *salame*. Such small contracts, it seems to me, leave the door open for many abuses, and I do not see how an efficient sanitary control can be kept over so many different and scattered purveyors. The municipality owns the public abattoir and proposes to build another and a larger one. If it were to introduce on the same premises a sausage-making department it would be much easier to keep effective watch over the quality of the meat given to the children in the form of *salame*. There are in all 80 elementary schools which children must attend from the age of six to 12 years and there is no charge made for the teaching. The parents, however, are supposed to pay for the stationery, the books, and the meals. The committee of patronage, which at one time had been expected to organise the meals, now only attends to helping poor families to send their children to school by buying clothes and books for them.

In regard to the meals, the principle is that every child must be fed and this is done by the parents if living near enough for the child to go home for the midday meal, or the child may purchase his meal at school; but if he is too poor to pay the meal is given gratuitously. As matters now stand, about half live near the school and are well enough off to go home to their meals. 33 per cent. of the total school population are inscribed to receive their midday meal gratuitously at school, while from 17 to 20 per cent. remain at the school at midday but pay for their meal. This small proportion of pupils who pay causes some trouble. If they pay they do not fail to grumble. They do not want a meal at 9 centimes, or a fraction less than a penny. Most of those who can pay at all can afford 15 centimes, or 1½*d.*, and would prefer to give this sum and have a properly cooked hot meal rather than pay much less for only bread and cold sausage.

When the parents cannot pay they must send a written demand to the municipality and then one of the delegates of the municipal education commission makes inquiries. The deciding factor in judging such cases is generally the number of the family. If there are only two children then the parents may be forced to pay for the meals of one of them. Also if the children look in ill health then the food is not refused. Altogether the gratuitous meals are very readily given. Roughly speaking, the meals now cost the municipality about £12,000 annually. The parents who pay for their children's meals have given in all £3200 in the course of the year. It is important to note that here, as elsewhere, the tendency is to increase, and to increase extensively, the number of meals given gratuitously. Thus, when in 1900 this service began meals were given on only 133 days out of a possible 174 days of school attendance. The outlay was then set down at 98,300 francs. During the second year, however, free meals were served on 153 days and cost 149,337 francs. In 1903 the free meals cost the municipality 247,766 francs and 277,603 in 1904. The outlay will now exceed 300,000 francs and the number of pupils who manage to establish their claim to be fed gratuitously is ever increasing. The nearer the school to the outskirts of the town the larger the proportion of gratuitous meals required. This is due to the fact that the children come from a greater distance and that their parents are generally agricultural workers.

From all this it will be gathered that a great deal has been done, but principally in an experimental manner. The authorities have been led by force of circumstances to extend and to improve step by step, acting according to expediency and the exigencies of the moment rather than in obedience to some fundamental principle and in harmony with a clearly defined theory. To the more logical and theoretical mind the experiences of the conservative municipality of Vercelli will be far more interesting and these I hope to describe at an early date.

(To be continued.)

THE INTERNATIONAL CONFERENCE ON CANCER.

(FROM OUR CORRESPONDENTS.)

THE Institute for Cancer Research at Heidelberg was formally opened on Sept. 25th during the meeting of the International Conference on Cancer which was held at Heidelberg and Frankfort from Sept. 25th to 27th. The institute, which has been entirely built by private subscriptions, will be under the direction of Professor Czerny, the celebrated surgeon of the University of Heidelberg. It is a hospital for cancer patients as well as a centre for cancer research. In addition to a number of wards and single rooms containing altogether 45 beds, there are admirably equipped laboratories, which include anatomical, chemical, bacteriological, and experimental departments. The hospital will receive patients in every stage of the disease both curable and incurable. It is therefore provided with a large operating room and arrangements for employing phototherapy, radiotherapy, and other modern methods. Out of deference to the feelings of the patients the name of the hospital will be "The Samaritan Home" (*Samariterhaus*), thereby avoiding the terrible word cancer. The opening ceremony took place in the presence of the Grand Duke and Grand Duchess of Baden and representatives of the municipal authorities, the University, and the scientific world.

After the Cancer Institute, of which an account illustrated with plans and a front elevation was given in THE LANCET of Oct. 6th, had been visited and declared open, their Royal Highnesses and the many illustrious persons present proceeded to the Aula of the University. Here Professor VON LEYDEN (Berlin) read an address of congratulation in reference to the inauguration of the institute and of welcome to the representatives of various nations. He said that prior to the end of the eighteenth century cancer was treated almost entirely by quacks, but about this period the medical profession took up the study of this disease in a systematic manner, France and England, where special cancer beds or wards were opened as early as 1791, taking the lead. In 1801 the Society for the Investigation of the Nature and Cure of Cancer was founded in London; similar institutions were also organised in the United States, Russia, and Sweden. In 1900 the German Central Committee for the Study of Cancer was established in Berlin. Professor von Leyden strongly insisted that statistics showed a definite increase in the number of persons attacked by the disease and in sympathetic words he alluded to the death of the Emperor Frederick the Noble. The work and aims of the central committee were expressed as: (1) the answer to the question whether cancer was due to a parasite like infectious diseases; (2) the investigation by experiments whether cancer was transmissible from man to animals; (3) the chemistry of cancer; and (4) the main and chief object—to seek new and more successful remedies. The first object accomplished was statistical in order to obtain an idea of the prevalence of cancer. In 1902 a special cancer department was opened in the Medical Clinic of Berlin; in 1903 an institute under Professor Ehrlich's directorship was opened at Frankfort; and in 1904 an institute for the treatment of cancer by the Roentgen rays, Finsen light, and radium was opened in Berlin. In conclusion, Professor von Leyden, while supporting his attitude towards the parasitic theory of cancer, referred to the results of chemical researches and the possibility of therapeutic measures based thereon.

Professor CZERNY, as president of the Baden committee, was the next speaker. He dwelt upon the aims of the new institute—inaugurated that morning—which was to work in conjunction with the institutions at Berlin and Frankfort. He alluded to the great progress which had been made in the surgical aspect of cancer, saying that 40 years ago under the care of Professor Billroth 14 per cent. of the cases recovered—i.e., there were no recurrences after three years, but at the present time 40 per cent. of such recoveries were found. He considered that asepsis and anæsthetics were nowadays so perfect that a limit has probably been attained and new methods must be found if better results are to be secured. Inoperable cases required special attention and in most hospitals they were not admitted, but this new institute would care for them. In it surgical treatment would come foremost, the material removed by operation would be investigated in every possible way, a close association between operating room and laboratory would be established, and all new methods theoretically promising would be investigated and subjected to practical tests. With the words "education, organisation, perseverance, and hard work have made Germany what it is" and "Hoch" for the Grand Duke and Grand Duchess Professor Czerny resumed his seat.

The GRAND DUKE in a long speech expressed his thanks on behalf of himself and the Grand Duchess. He said that it gave him extreme pleasure to be present at the inauguration of so important an institute, which brought Heidelberg once more into prominence and which promised so much good to mankind. As an old pupil of the University of Heidelberg he alluded to its past, to the names of such illustrious men as Bunsen, Schlosser, and Vangerow, and called for three cheers for the University.

On behalf of the Government, Minister VON DUSCH, and on behalf of the University, Prorector TROELTSCH greeted the foreign members of the Congress.

Professor KOSSEL, Dean of the Faculty, delivered the farewell address to Professor Czerny on his vacating the professorial chair to become director of the new Cancer Institute.

Dr. WILKINS, the Chief Burgomaster, spoke on behalf of the municipality of Heidelberg and Professor UHLENHUTH spoke as the representative of the Prussian Government.

Dr. E. F. BASHFORD (who replied on behalf of his English colleagues—Dr. Alexander Paine, Dr. D. J. Morgan, Dr. White, Dr. Loveday, Dr. W. S. Lazarus-Barlow, Mr. F. B. Jessett, Mr. C. H. Leaf, Mr. Charles, Ryall, Mr. W. E. Miles, Mr. J. Howell Evans, and Mr. R. H. J. Swan) extolled the necessity of coöperation and of neglecting claims of priority. He eulogised Professor Czerny as a surgeon and Professor Ehrlich as a master of experimental medicine.

Professor SEGOND (Paris) expressed his hope that soon some more satisfactory treatment might be found.

Dr. LEVSCHIN (Moscow) also spoke.

As general secretary of the Congress Professor GEORGE MEYER remarked that nearly all civilised countries were represented: even from Asia and Africa delegates had been sent; out of 800 invitations only 50 had been declined.

Many distinguished foreigners were presented to the Grand Duke and Duchess, Professor Czerny paying particular attention to the presentation of all the English visitors. During the course of conversation with one of our correspondents the Grand Duchess, who evidenced great interest in cancer research, expressed gratification at finding so many members of the staff of the Cancer Hospital, London, present, inasmuch as she had since 1851, the year of its opening, observed its work with deep interest. She remarked that upon its staff were members of not only the Royal College of Surgeons but also of the Universities of Oxford, Cambridge, and London. From 12.30 to 1.30 P.M. all members of the Congress were invited by Professor Czerny to luncheon in the new college hall.

At 2 P.M., with Professor CZERNY in the chair, the first scientific meeting of the Congress was held. A telegram was received from Herr Richard Fleischer, the chief benefactor of the new institute, expressing his regret at being unable to attend owing to an accident.

Professor VON LEYDEN, the President of the Committee for Cancer Research, read a paper on the Problems connected with the Treatment of Cancer. He said that for centuries surgical intervention had been the only rational resource but that the results were in general not yet satisfactory, although a permanent recovery rate of 40 per cent. had been obtained in early cases. It had become more and more probable that a parasite was the cause of cancer, and since the discovery of Jensen, who first ascertained the presence of malignant growths in mice, his (Professor von Leyden's) attention had been directed to serum treatment. He mentioned two cases of inoperable growth situated in the pancreas and the vertebral column respectively where by the injection of serum from sheep the general state of the patients was improved and their weight was considerably increased. He then spoke of the disintegration of the cancer cells by trypsin and of the experiments made especially in England to use this fact as a therapeutic agent.

Professor CZERNY then spoke of unexpected recovery from cancer. He said that undoubtedly, though in very rare cases, cancer might spontaneously disappear when the case was not operable or when total removal was impossible. Erysipelas was known to have a deleterious influence on the growth of cancer and he mentioned the case of a patient in whom several relapses had happened and who, after an attack of erysipelas occurring 20 years ago, was now in good health. Palliative operations sometimes resulted in complete recovery and among his cases of palliative gastro-enterostomy there were 12 which were followed by permanent recovery.

The following papers and demonstrations were contributed:—Dr. FREIHERR VON DUNGERN (Heidelberg): "The Utility of Specific Serum Reactions in the Study of Carcinoma." Professor GOLDMANN (Freiburg): "The Relation of Carcinoma to the Blood-vessels" (lantern illustrations). Dr. FROMME (Halle): "Demonstration of the Behaviour of the Mast Cell in Carcinoma" (lantern illustrations). Professor VÖLCKER (Heidelberg): "Demonstration of Cancer of the Stomach and Intestines."

In the evening there were fireworks and illumination of the two bridges and both banks of the river.

The second part of the Congress was held at Frankfort-on-Main.

(To be continued.)

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Musical Festival.

THE triennial musical festival has grown into a great institution, but its primary object was to render aid to our General Hospital and in 1834, when the first festival was held, a sum of £4035 was handed over to the hospital authorities as the profit out of receipts amounting to £13,527. This year, probably on account of the very inclement weather, the attendance was not so large as on some previous occasions, and though the result is not yet known it is very probable that the profits will not be so great as they were last time. The expenses are, of course, very heavy and the accommodation is limited, so were it not for generous donations it would be difficult to meet expenses and the hospital would receive but little aid. Fortunately, however, there are many generous donors and so the good work goes on.

The Orthopædic and Spinal Hospital.

The new out-patient department of the Orthopædic Hospital was opened on Oct. 10th by the Marquis of Hertford. It is a handsome building in the Elizabethan style and is faced with slightly glazed bricks and terracotta, which, it is hoped, will remain clean longer than ordinary bricks do in this city. The interior is well arranged for the comfort and convenience both of the patients and the staff and there can be no doubt that the building will greatly facilitate the work of the institution. Unfortunately, however, the income of the hospital is far from satisfactory; indeed, the committee is seriously considering whether it will be able to continue to supply instruments free of charge to poor patients. If it becomes necessary to adopt this solution of the difficulty the benefits of the charity will be seriously curtailed and it is to be hoped that now the condition of affairs is known the subscriptions and donations will be augmented.

The New Mortuary.

The necessity for a central properly equipped mortuary in Birmingham has been felt for a considerable period and it was determined some time ago that one should be provided. The project has now advanced so far that the council has applied to the Local Government Board for sanction to borrow £3000 for the purpose of erecting a proper building on a suitable piece of ground in Newton-street. A public inquiry has been held and as no opposition to the council's scheme was forthcoming there can be little doubt that the necessary sanction will be granted and Birmingham will at last possess proper mortuary accommodation.

The Condition of Birmingham School Children.

If the statements made at a meeting, held under the presidency of Mr. Priestley Smith at the Friends' Meeting House, can be fully substantiated the condition of the children in some of the poorer districts must be extremely bad, indeed far worse than the majority of people consider possible and yet apparently no worse than in some other cities. It is asserted that in some cases as many as 85 per cent. of the children are continually ill and that not more than 2 per cent. are really robust, whilst it is questioned whether 50 per cent. of the children are physically capable of profiting by the instruction provided for them. In very many cases the children are short-sighted, yet none of them are provided with spectacles. The speakers pleaded the necessity for compulsory medical examination, urging that it was useless to throw away money in providing an education which could not be assimilated. They admitted that the provision of medical examination would be very costly but they contended that the money would be well spent in building up a healthy race which would then be able to profit by the instruction provided. One cannot help thinking, however, that this undoubtedly dismal picture has been drawn with somewhat unnecessarily strong lines and that it refers to a somewhat limited and particular class of children, for at the annual gymnastic competition held on Saturday last for the boys of the Birmingham elementary schools the spectators could not but be struck with the general smartness. It is true that they were selected boys, but Councillor Dr. Gordon F. Nicholls referred to the splendid manner in which physical education was being attended to in our schools and he asserted that it was being carried on "by the band of workers second to none in any large city in England."

Local Health Reports.

The health of the city remains good and with the advent of cooler weather deaths from diarrhœa are decreasing rapidly. The quarterly reports of Oldbury, Aston, and Yardley show how fatal summer diarrhœa has been, though, strangely enough, the disease did not become particularly fatal in Aston till September. There is no doubt that a large amount of this fatal scourge is due, as Mr. A. H. Wilson of Yardley pointed out, to neglect of thorough cleanliness; not only cleanliness of feeding-bottles but also general cleanliness; and many valuable lives are sacrificed which might be saved if stronger efforts were made to induce the women of the poorer districts to have greater faith in the plentiful use of fresh water and if they were taught that fresh water can be used quite effectively without the aid of the elaborate appliances which they may have seen in public institutions.

The Edinburgh Graduates' Dinner.

The annual dinner of the Edinburgh graduates resident in Birmingham and the surrounding district was held at the Grand Hotel on Thursday last. The meeting was a great success both in numbers and in the quality of the speeches. Professor R. F. C. Leith was in the chair and about 70 graduates were gathered to welcome Professor D. J. Cunningham (the principal guest), Professor Arthur Thomson of Oxford, Professor C. S. Sherrington of Liverpool, and Professor Frankland of Birmingham.

Oct. 16th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

University of Liverpool: Opening of the Muspratt Laboratory of Physical Chemistry and Electro-Chemistry.

THE Muspratt physical chemistry laboratory, the latest addition to the University of Liverpool, was opened on Oct. 13th by Sir William Ramsay, K.C.B., F.R.S., in the presence of a large gathering which included many distinguished British and foreign professors of chemistry, among the latter being Professor Ostwald (Leipsic) Professor R. Abegg (Breslau), Professor H. Goldschmidt (Christiania), and Professor E. Cohen (Utrecht). The new laboratory is the gift of Mr. E. K. Muspratt of Seaforth Hall, one of the pro-Chancellors of the University, and the President of the Council. The laboratory confers upon Liverpool the distinction of being the only city in the British Empire to possess a special and completely equipped laboratory for the study of physical chemistry and electro-chemistry. Including its electrical machinery, laboratory, and furnaces the estimated cost will be £16,000 and it will provide accommodation for 43 persons. It stands behind the existing chemical department of the University and is immediately connected with it on the basement level. It is constructed in four storeys, the exterior being of red pressed brick and stone, and in its general design harmonises fittingly with the buildings which surround it. The basement is taken up with a dynamo room, a battery room, store room, furnace room, and a research room for four students. The generating machinery, which is to be driven by current from the corporation mains at 460 volts pressure, comprises a 30-kilowatt direct current generator supplying current at 80 to 100 volts; a 10 kilowatt charging set, consisting of two machines on the same axis, each giving 250 ampères at 20 volts; and an 80-kilowatt alternator with two windings to give 1000 ampères at 80 volts, or 500 ampères at 150 volts. The charging set is employed to charge (in sections) a battery of 36 Tudor cells, which is divided up into six sets of six cells, to secure greater constancy of voltage, so that each floor may have the use of a separate set. Vertical cables carry the current from the direct current generator and the alternator and from the cells to four distributing exchange boards on each floor, where each working bench is provided with a circuit (to carry 50 ampères) running to the corresponding distribution board. Here, by means of flexible connexions, the bench circuit can be connected up with the various voltages. From the battery switchboard three wires run to each of the three exchange boards, which, by flexible connexions, can be connected up with the battery switchboard, so as to be supplied with current at four, eight, and 12 volts. Of the electrical equipment, one of the most conspicuously interesting features will be the electrical furnace, which will be capable of developing a heat of 4000 degrees, an intensity quite sufficient for the melting of a common brick. On the ground floor there are a lecture-room with accommodation for between 80 and 90 students, a library, and a preparation room, besides a workshop and a photographic room. The second floor contains a large elementary laboratory for 21 students, a research room for advanced students, and an additional research room which will be appropriated to the use of members of the staff. On the same floor there will be the optical room, a storeroom for instruments, and a balance room. The senior laboratory, with accommodation for eight students, is on the second floor, which also contains a balance room and four other rooms which will be devoted to research work; while the flat roof of the building is so arranged as to give additional accommodation for students as required for certain classes of experimental work. The working benches in the laboratory and research rooms will be supplied with gas, water, and electricity. Close to each bench is a fireproof slab composed of compressed red Ruabon tiles set in cement, which material, excepting in the case of the supports for balances, is used throughout instead of slate. Rooms intended for ordinary teaching work are fitted with benches of the usual type, but for greater convenience several of the research rooms are equipped with moveable tables. Mainly the lighting is effected by incandescent gas-burners on brackets or pendants, but in certain departments, including the fume-chambers, Tantalum electric lamps are brought into use. Professor F. G. Donnan, who is to take charge of the new laboratory when it is completed, has personally superintended the carrying out of the electrical equipment. Some idea of the extent of the equipment may be derived from the fact that six miles of wire and nearly four and a half tons of brass have had to be utilised. It is expected that the installation of the machinery and apparatus will be completed and the laboratory will be in readiness for the commencement of its work in about a month's time. The holding of the formal ceremony had been fixed in advance of the actual completion of the laboratory solely with the object of securing the attendance of a distinguished company of foreign men of science. Sir Henry E Roscoe was, unfortunately, unable to be present and Professor Bredig (Heidelberg) and Professor Guye (Geneva) telegraphed their good wishes for the success of the new laboratory. Sir William Ramsay delivered a very interesting address, prior to which Mr. Willink, one of the architects (on the invitation of the Vice-Chancellor, Dr. Dale, who presided in the absence of the Earl of Derby), presented to Sir William Ramsay a beautiful gold key of the new building.

St. Luke's Day Annual Medical Service.

The annual service for members of the medical profession, which owed its inception (in 1901) to the public spirit of Mr. Frederick Walter Lowndes, was held on Oct. 14th (for St. Luke's Day) at St. Luke's Church. The sermon was preached by the rector of Liverpool (Canon Kempthorne). The Bishop of Liverpool read the lessons and the service was largely attended. The collection, which realised £25, will be devoted to the British Medical Benevolent Fund.

Liverpool Country Hospital for Chronic Diseases of Children.

Great progress is being made with the new Liverpool Country Hospital for Children, which is being erected in a very salubrious spot at Heswall, and it is now hoped that the central block and the administrative block will be ready for opening and for occupation in August, 1907. The public has been most generous in its contributions to this institution which it is expected will be invaluable as a hospital for the chronic diseases of children. The building is rapidly rearing its head and is quite an object of interest on the main road from Heswall to Thurstaston.

The Care of Epileptics and Imbecile Paupers.

The joint committee of the Liverpool select vestry and the West Derby board of guardians, with regard to the scheme for providing accommodation for imbeciles and epileptics which had been vetoed by the Local Government Board, has arranged that a deputation should wait on the President of the Local Government Board with the view of obtaining his sanction to the carrying out of the suggestions of the committee. The committee is of opinion that a great deal of hardship and suffering are endured and money wasted through the present arrangements by which epileptics and imbeciles are housed by the two unions. The parish of Liverpool is prepared to provide accommodation for the epileptics and the West Derby union for the imbeciles. The subject has already been referred to in The Lancet of Sept 22nd, p. 832, where it was stated that the Local Government Board considered that there were legal difficulties in giving effect to the arrangements proposed by the joint committee in their present form.

New Infirmary for Children.

Her Royal Highness the Duchess of Albany has kindly consented to perform the opening ceremony in connexion with the new Infirmary for Children. The committee hopes that Her Royal Highness will afterwards attend the ball to be held on behalf of the funds of the new hospital. A date for the dual event is being arranged in January next.

Oct. 16th.

WALES AND WESTERN COUNTIES NOTES.

(From our own Correspondents.)

Cardiff Infirmary.

It has been the policy of the managers of the Cardiff Infirmary during the past few years to ask for contributions which shall be allotted to definite purposes and in this way many important improvements have been made in the infirmary buildings. About two years ago Lord Tredegar gave £700 for the purpose of providing verandahs to certain wards. These have now been used sufficiently long to test their utility and it is satisfactory to find that the medical board has passed a definite resolution expressing its high appreciation of the immense service rendered by their use in promoting and accelerating the recovery of many patients, medical and surgical, treated in the open air, besides conducing greatly to the comfort and general happiness of many others.

Treatment of Tuberculosis under the Poor-law.

The Newport (Mon.) board of guardians has decided to utilise a house situated near the workhouse as a sanatorium for those inmates of the workhouse who are suffering from pulmonary tuberculosis. This decision has been come to upon the recommendation of the medical officer to the workhouse (Dr. T. G. Macormack) who pointed out in a special report on the subject that it was very undesirable to allow tuberculous patients to mix with other persons in such close proximity as was of necessity the case in a general ward. He also laid stress upon the disturbance to other non-tuberculous patients by the distressing cough which accompanies the later stages of pulmonary tuberculosis.

Vagrancy.

The conference of Poor-law delegates from the South-western counties which met at Bath on Oct. 11th passed a resolution approving the recommendations of the Departmental Committee on Vagrancy except that with respect to labour colonies these should be exclusively under State control. In the discussion which took place on this subject Mr. G. P. Gooch, M.P., said that the Poor-law system was hopelessly and utterly incapable of dealing with vagrancy; its only influence seemed to be to increase rather than to diminish it. Some form of compulsory detention must be introduced for the incorrigible and *quasi*-incorrigible. When the vagrants had served their term of compulsory detention they must not be sent back straight into the world, but there should be some intermediary institution between the penal colony and the return to the world. Mr. H. Preston Thomas, Poor-law inspector of the Local Government Board, agreed that the vagrants should be dealt with by the police and not by the Poor-law authorities.

Sewage Disposal at Yeovil.

The Yeovil corporation has issued to the inhabitants of that town a statement with regard to the failure of the septic tanks as a means of treating the sewage of the borough. Some particulars relative to the breakdown in the tanks, which is, of course, a very serious matter, were given in THE LANCET of Oct. 13th, p. 1030. An engineer has been requested to investigate the circumstances and to submit a report.

Sanitary Matters in the Tavistock Rural District.

A meeting of the Tavistock (Devon) rural district council was held on Oct. 11th to consider the report of Dr. R. Deane Sweeting of the Local Government Board with regard to the sanitary condition of the district. A reference has been made to the report in THE LANCET of Oct. 13th, p. 1031. After some discussion the matter was referred to a committee for consideration. The *Western Morning News*, in alluding to the utter inefficiency of the system under which the sanitary supervision of the district is carried out, urges the importance of whole-time medical officers of health appointed by the county council and wholly independent of local interests and control. The paper states that the present medical officer of health has a district covering nearly 240 square miles of very difficult country at a salary of £70 per annum, and adds that it is false economy which maintains so unworkable a system.

Oct. 16th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Alterations in the Buildings of the University of Edinburgh.

THE new engineering department of the University of Edinburgh was opened formally on Oct. 16th by Dr. Andrew Carnegie. The removal of this department from the older buildings has set free room which has been utilised in the following way. Those who know the old buildings will remember that the engineering department was on the north side of the quadrangle in the basement. Here halls have been made for the use of the associated and other students' societies; one is sufficiently large to hold about 200; another room is for the Students' Representative Council, with a small room attached to serve as an office; and a third room is for the non associated societies. An entrance has been made to these rooms from Chambers-street. The rooms have been heightened by lowering the floor a couple of feet, while more light has been obtained by enlarging the windows looking into the quadrangle. Another change of a useful kind has been the placing of a boiler in the basement in the north-west corner of the building as part of a scheme for the warming of the rooms from a central point.

Extension of the Edinburgh University Union.

The latest and the largest extension of the Edinburgh University Union is to be opened formally on Friday, Oct. 19th, when the Right Hon. Arthur J. Balfour and the Right Hon. R. B. Haldane, respectively the Chancellor and the Lord Rector of the University, are expected to be present. Owing to the increasing use the students have made of their union in recent years it was found absolutely necessary to add largely to the original building. An idea of what this means is to be gathered from the fact that instead of 600 members the membership now numbers 1200. The increase in the popularity has been largely due to the committee of the union taking the catering into its own hands instead of letting it out. The original building and equipment cost £16,000 while £26,000 is the figure put on the additions and alterations. The additions have been made to the west of the original building on ground between it and the Reid Hall, on which, in days not so long past, there stood a building originally used as a chapel but more recently used as one of the extra-mural lecture rooms. The new buildings include a large new library, a large new reading room (also available as a small hall), writing room, committee room, and two fives courts. The old library and committee room have disappeared to provide a large square entrance hall instead of the original cramped and confined entrance hall. To meet the cost of these expenses the union has already raised £8000 and Sir Donald Currie and Dr. Andrew Carnegie have each promised £6000 if the remaining £6000 be made up within a year. The raising of the additional £6000 will be a great tax on the friends of the union. The students in Scotland do not belong to the wealthy classes; it says much for them and the friends of the union that they have already raised over £8000 for the extensions and that they have had the courage to go forward as they have. The union is an admirable factor in student life, and in view of the excellent and courageous manner in which it has been conducted and developed it is well entitled to whole-hearted support and assistance.

New Public Dispensary for Glasgow.

At a meeting convened by the Lord Provost of Glasgow last week it was decided to establish a public medical dispensary in the Anderston district of the city. It was pointed out at the meeting that in the district suggested there was a population of between 60,000 and 70,000 people, the larger proportion being of the working class. While it is proposed that the dispensary should cover generally the lines followed by similar institutions, special attention will be given to women's diseases and the diseases of infancy and childhood, and it is hoped that the corporation will thus be aided in dealing with infantile mortality and consumption. There is no doubt that this new dispensary will tend to relieve the congestion at the out-patient departments of the various hospitals of the city, but on the other hand its existence may make a considerable difference to those medical men whose practices abut upon the district affected.

Moffat Cottage Hospital.

There has just been opened at Moffat a cottage hospital to be utilised for non-infectious cases. The hospital has been erected by means of a fund which came into existence about the year 1891 as the sequel to the memorable litigation between the working men of the town, the trustees of the Working Men's Institute, and the Proudfoot Endowment trustees. An institute and reading-room was erected by voluntary subscription in 1886, principally for working men, and was carried on by trustees and managers appointed by the subscribers until 1890, when the buildings and furnishings were sold to the Provost and magistrates of the burgh, trustees under the will of the late William Proudfoot of Natal, who bequeathed the residue of his estate for a similar purpose. An attempt by the working men to contest the legality of the sale failed in court and an action of multiple poinding was afterwards raised to determine the rights of parties to the proceeds of the sale, in which action it was decided by the court that the proceeds fell to be returned to the original subscribers or their representatives. The majority agreed to allow their subscriptions to be applied for the foundation and endowment of a cottage hospital and in this way the sum of £1269 7*s.* 9*d.* was paid over by them to trustees for this purpose. With the inauguration of the hospital the management of the District Nursing Association, carried on for fourteen years by a committee of ladies, becomes amalgamated with the management of the new institution.

Oct. 16th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Action of the X Rays on the Ovary of the Bitch.

M. Bouchard read a paper on this subject at a recent meeting of the Academy of Medicine. The experiments in question were made by M. Roulier. Last year three observers showed that the x rays in weak doses could bring about atrophy of the ovary in rabbits. M. Roulier repeated these experiments upon both rabbits and bitches and found that the x rays had an elective action on the ovaries. In very small animals atrophy could be easily brought about without the production of any loss of hair. In the bitch, however, it is very difficult to obtain, even though the administration of the x rays was carried to the extent of bringing about lesions of the skin. It would appear impossible to bring about atrophy of the ovary in woman, since experiments upon the corpse of a woman showed that x rays No. 10 were unable to modify the colour of a radiometric pastille placed over the ovary.

Wounds of the Stomach treated by Laparotomy.

At the Nineteenth Congress of the French Surgical Association, held in Paris from Oct. 1st to 6th, M. Auvray described three recent cases of wounds of the stomach treated surgically. With these cases, added to those which he has already published, the number of patients operated on by him is brought up to seven, among whom there were four recoveries and three deaths. He considers that it is very important to make a large opening in the gastro-colic mesentery for the purpose of exploring the posterior aspect of the stomach so as to ascertain if there is a wound there. Too small an opening makes the exploration very difficult and he has found that in freely incising the gastro-colic mesentery in the transverse direction several vessels might be divided without risk to the vitality of the intestinal walls. This opening is, however, often insufficient, and M. Auvray has therefore been led to investigate the indications for exploratory gastrotomy. Although this operation is the best means of exploring the posterior aspect of the stomach it must not be systematically resorted to in all cases, for it increases both the duration and the seriousness of the operation necessitated by the wound. In coming to a decision the principal points to be considered are the nature of the wound, the condition of the stomach as regards fulness or emptiness at the time of the injury, and the circumstances in which the injury was inflicted. Exploratory gastrotomy will probably be of most use in wounds caused by projectiles and in cases where the stomach was empty when wounded.

Suture of Arteries.

At the same congress M. Ziembicki said that he had performed suture of arteries three times. In his first patient the inferior thyroid artery was torn during the removal of a cancer of the neck. The artery was injured at its origin on a level with the bifurcation of the carotid artery. Hæmorrhage occurred on the tenth day and the patient succumbed. The second patient suffered from a traumatic aneurysm of the radial artery; the suture held quite well and recovery was complete. The third patient suffered from a diffuse aneurysm of the popliteal artery; catgut sutures were employed and on examination ten days afterwards firm union was found. The result was excellent.

Wounds of the Liver.

At the same congress M. Leguen discussed the surgery of the liver. He said that he had operated four times for wounds of that viscus; three of the patients had been shot with a revolver and one had been stabbed with a knife. In the case of the three former he operated as soon as he saw the patients from two to four hours after the injury. They all recovered; one, however, had for some weeks a considerable biliary fistula which eventually closed spontaneously. In one of the cases the bullet remained in the liver; in another one it lodged in the wall of the femoral artery on the right side and was extracted. These three cases show the advantage of laparotomy after bullet wounds of the liver. With regard to the patient who had been stabbed it was found at the operation that the wound extended right through his liver and a fatal termination was the result. M. Leguen considered that in such cases suture was useless and dangerous. In order to reduce the length and the shock of the operation he always contented himself with inserting a drainage wick in the wound.

Malaria and the Soil.

At a meeting of the Academy of Medicine held on Oct. 2nd M. Kelsch protested against the limited view taken by the pathologists who considered that malaria was transmitted exclusively by means of the anopheles mosquito. By a series of examples taken principally from the last great epidemic of malaria in Madagascar he endeavoured to show the powerful influence of the soil in the production of malaria. He said that in malarious countries even the slightest disturbance of the soil gives rise to an epidemic which is severe in proportion to the duration of the work and to the quantity of earth disturbed. In Madagascar it was along the roads in course of construction that the disease was most intense. In his opinion the causes which led to sudden outbreaks of malaria were either (1) a considerable rise of temperature with wide diurnal and nocturnal variations or (2) excessive fatigue. Severe epidemics of malaria were known to have followed long marches and expeditions of considerable duration. The nature and quality of the food that was taken were also not without an appreciable effect. The drinking of impure water might contribute to the transmission of the disease.

Syphilis in Respectable Women.

At the same meeting of the Academy of Medicine M. Fournier made a reference to the occurrence of syphilis in respectable women, a subject on which he is universally recognised to be an authority. He said that statistics collected in his own practice showed that among women suffering from syphilis 20 per cent. were respectable married women who usually became infected in consequence of their husbands having contracted the disease before marriage. He quoted statistics of syphilis communicated by the husband to the wife, the result being that the husband had contracted the disease in 218 cases before marriage and in only 94 cases after marriage. When a woman was infected by her husband who was syphilitic before the marriage she usually exhibited the symptoms during the first six months after marriage. M. Fournier has seen cases in which women were infected by their husbands who had contracted syphilis seven, eight, and nine years previously.

Influence of the Motor-car on Health.

M. Legendre has been studying this question and read an account of his researches before the Therapeutical Society on Oct. 10th. The rapid displacement of air over the surface of the skin produces a feeling of freshness due to vaso-constriction. This is followed by a vaso-dilatation when the car stops. These modifications in the circulation have an influence upon certain affections of the skin. Upon pulmonary affections the effect of the motor-car is variable, but in general those suffering from emphysema and certain cases of nervous asthma find benefit. Motoring should be forbidden to tuberculous patients whose temperature is raised. Short journeys in a motor-car seem to have a good effect in cases of chlorosis and motoring may be permitted to patients suffering from morbus cordis who have good compensation but not otherwise. Motoring is also useful in cases of anorexia, gastralgia, and chronic constipation but is harmful in cases of gastric ulcer. Nervous patients suffering from depression are improved in health, those suffering from exaltation are made worse, and the same is the case with epileptics and alcoholics. Cases of gout and diabetes improve owing to the plentiful supply of air which they obtain.

Oct. 15th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Stovaine.

CLINICAL experience in the Italian schools continues to justify the expectations with which some three years ago stovaine was ushered into practice by the French pharmacologist Fourneau. In a review of its effects Dr. Ernesto Mancini holds that, its toxicity being twofold less than that of cocaine, it exerts on the heart no detrimental action whatever; nay, in doses not excessive it may safely be exhibited as a cardiac tonic. Its bactericidal virtues are already admitted, destroying as it does within five minutes all the germs contained in a highly impure water to which a solution of it in the proportion of 25 per 1000 has been added. Confirming its anæsthetising power, Dr. Mancini shows how thoroughly it can induce insensibility in the lower half of the body when injected into the vertebral column at the level of the lumbar vertebræ, the anæsthesia remaining for 40 minutes unimpaired without the untoward concomitants of cocaine and leaving the surgeon ample time to complete his operation. In eye affections such as cataract and strabismus, in the various forms of gastralgia, in the neuralgias, and in dental pain it adds an aid to treatment as safe as it is certain, obviating all the discomforts, not to say the terrors, formerly associated with clinical intervention.

The Railway Disaster at Piacenza

Italy is still vibrating with the shock of the terrible accident on the much-frequented Milan-Piacenza-Bologna-Florence line. Five dead and some 50 injured, more or less gravely, such is the latest return issued as to the number of the victims. Pending the commission of inquiry now at work the most serious hypotheses are hazarded as to the cause. That which held the field in the first instance and is not even yet abandoned ascribed the accident to the notoriously bad quality of much of the rolling stock—a cause, be it remembered, which was held responsible for the frightful disaster which overtook the train leaving Rome in the August of 1900, with its crowd of passengers returning from the funeral obsequies of the assassinated King Humbert. Another view of the accident finds its cause in the "deragliamento" of the train when rounding a very sharp curve at a high rate of speed. But whichever hypothesis proves the correct one the fact brings home to the directorate of the Italian railways the gravest of warnings as to the consequences which such accidents must have on Italy's main source of revenue—the annual influx of visitors. The society for encouraging and promoting that influx—a society including not only representatives of the hotel-keeping and commercial interests but also members of both Houses of Parliament impressed with the value of the "human import"—seems to lavish its attention on every other means of making Italy "attractive," while neglecting the essential conditions of safe transit, comfortable entertainment in properly appointed hotels, and (not least consideration in this regard) suppression of Custom House vexations and luggage robberies. While these conditions remain as they are at present, that is, as powerful "deterrents," it is idle to hold out "lures and baits" in the cities themselves which are supposed to be the objects of interest—the moral *termini ad quos*—of the foreign visitor. The Roman "passeggiata archeologica" (or promenade through the most impressive monuments of antiquity) may deserve all the praise merited by its conception and its engineering ingenuity; but such attractions lose well-nigh all their charm when not preceded by safe railway access to the city itself and not accompanied by adequate provision for health and comfort within its walls. I am glad to see that the more weighty of the organs of public opinion are agitating the "foreign import" question in this sense—with, let us hope, the desired result of reducing to a minimum the risks and the "petty martyrdoms" too often associated with travel and residence in Italy. To return to the disaster at Piacenza. Among the sufferers by it is Professor Amico Bignami of the Roman Medical School, reported as "gravemente ferito." The professional world will join in fervent wishes for the speedy and permanent recovery of a colleague so eminent in nature-study and in clinical practice.

Oct. 15th.

THE UNEMPLOYED WORKMEN ACT.—The Local Government Board has issued two circulars to the distress committees outside London relative to the sum voted by Parliament in aid of expenses under the Unemployed Workmen Act. Circular No. 1 has been sent to the distress committees from which the Board is prepared to consider applications for a grant and No. 2 to the others.

ROYAL EAR HOSPITAL.—A concert will be held under the patronage of H.R.H. Princess Christian of Schleswig-Holstein in aid of the Royal Ear Hospital, Dean-street, Soho, London, at 35, Grosvenor-square, W., by kind permission of the Duke of Somerset, on Tuesday, Nov. 6th, at 3 P.M. Some well-known artistes have kindly promised to assist. Tickets, of which the price is 1 guinea each, may be obtained from the Duchess of Somerset, 35, Grosvenor-square, W.; from Miss Edith Kirkwood, 81, Hyde Park Mansions, W.; from Mr. Richard Lake, 60, Harley-street, W.; or from the secretary, Royal Ear Hospital, Dean-street, Soho, W.

Obituary.

JAMES FINLAYSON, M.D., LL.D. GLASG., F.F.P.S. GLASG.

Dr. James Finlayson died, in his sixty-sixth year, at his residence, 2, Woodside-place, Glasgow, on the afternoon of Tuesday, Oct. 9th. Entirely unexpected by all, except perhaps by a very few of his most intimate personal friends, the sad event came as a shock not only to his professional brethren but to the entire community of Glasgow, amongst whom he was well known and deservedly popular. On the day before he had apparently been in his usual health and had visited his wards in the Western Infirmary. On the evening of Monday, however, he suffered from sickness and vomiting and retired early. At about 5 o'clock on Tuesday morning the sickness returned and soon afterwards an apoplectic seizure accompanied by hemiplegia supervened. In a very short time he passed into a state of coma which terminated in death at about half-past two o'clock in the afternoon, just about the time when the funeral of his friend and former colleague, Mr. Hugh Brown, late chairman of the house committee of the Glasgow Royal Infirmary, was passing his door.

James Finlayson was born in Glasgow on Nov. 22nd, 1840. His father was Mr. Thomas Finlayson, a manufacturer in the city, and his mother was Miss Georgina Campbell, the daughter of an army surgeon. At the "Southcroft Club" which met on Saturday evenings at his father's house, literary, political, and philosophical questions were in the winter discussed, and his circle of University friends was increased by the addition of others, of whom Dr. (now Sir) R. Giffen, C.B., was afterwards the best known. All who knew Dr. Finlayson will readily recognise the influence which such early advantages had on his whole future career. They moulded the man and made him what he was.

His education was commenced at the high school of Glasgow and in 1856–57, at the age of 16 years, he joined the University as an arts student. From 1857 to 1862 he was engaged in his father's business and he entered upon his medical curriculum at the University in 1863–64. Among his class fellows were the late Professor Joseph Coats, Sir Hector C Cameron, Dr. Thomas Barr, and Dr. Gavin P. Tennent. His academic career was singularly brilliant and on May 16th, 1867, he took the degree of M.B. "with honours," at the same time becoming a Licentiate of the Royal College of Surgeons of Edinburgh. Of his professors only Lord Lister and Sir William T. Gairdner, K C.B., now survive. At the time of his graduation as M.B. a thesis was required and the subject of Finlayson's was the Value of Quantitative Methods of Research in Medicine and the Allied Sciences. On May 17th, 1869, he received the degree of M.D., and 30 years later, on April 18th, 1899, in recognition of his writings on practical medicine and medical history and biography, his *alma mater* conferred upon him the degree of LL.D. He became a Fellow of the Faculty of Physicians and Surgeons of Glasgow in 1871 and six years later he was appointed honorary librarian of the Faculty, an office which he held for a quarter of a century. In 1899 he was elected visitor (Vice President) of the Faculty and from 1900 to 1903 he occupied the honourable office of President. During his whole professional life Dr. Finlayson was a hospital physician and in 1871 he began clinical teaching which he continued without interruption till his death. From 1871 to 1874 he was clinical tutor to Sir William Gairdner at the Glasgow Royal Infirmary. In 1875 he entered on his duties as physician to the Western Infirmary where he laboured till the end. At the opening of the Royal Hospital for Sick Children, Glasgow, in 1883, he was appointed one of the physicians, an appointment which he resigned in 1898 when he became consulting physician to the hospital.

Amidst all the labours of a busy physician Dr. Finlayson's pen was never idle and as a result the profession is to-day richer by a large number of valuable contributions to the literature and history of medicine. His largest work was the well-known "Clinical Manual," which, first published in 1878, has reached three editions in this country and, under the title of "Clinical Diagnosis," two in America. He wrote the article on "Diagnosis" in Keating's "Cyclopædia of the Diseases of Children," published in 1889 by the J. B. Lippincott Company of Philadelphia. His most important biographical works are the "Account of the Life and Works of Maister Peter Lowe, the Founder of the Faculty of Physicians and Surgeons, Glasgow," and the "Account of the Life and Works of Dr. Robert Watt, Author of the 'Bibliotheca Britannica.'" His contributions to the British and foreign medical press number about 150 in all; a detailed account of them is to be found in the *Glasgow Herald* of Oct. 10th and in the library of the Faculty of Physicians and Surgeons. In addition to all this must not be forgotten his arduous and self-sacrificing labours as honorary librarian of the Faculty. Many hard but ungrudged hours of his working life were devoted to its interests. In association with his friend, Alexander Duncan, LL.D., librarian and secretary of the Faculty, whose ready help and profound bibliographical knowledge were ever at his call, and with the hearty collaboration of his colleagues of the library committee, he succeeded in making the library of the Faculty one of the finest and best catalogued collections of medical books in Scotland, particularly rich in medical history and ancient literature. In recognition of his labours when he resigned the office in 1901 the Faculty presented him with an address of thanks engrossed on vellum. Dr. Finlayson also performed an important service to the *Glasgow Medical Journal* by acting as convener of its index committee. In spite of great difficulties he organised the work of preparing an index of the journal from its beginning in 1828 down to the year 1888. The duty of preparing the index was intrusted to the late Dr. Malcolm McMurrich but the work was supervised by Dr. Finlayson throughout.

As a man Dr. Finlayson was honourable, courageous, loyal, and affectionate, inspiring the love and respect of all with whom he came into contact, whether his fellow citizens, his pupils, or his colleagues. His mind was exact, painfully seeking after truth and scientific accuracy. His judgment was matured and impartial and his opinion was always eagerly sought on all questions of doubt or difficulty. Quiet and unassuming, he owed his eminent position in professional circles to the confidence and respect which he inspired in others. The high place which he occupied for many years among his colleagues in Glasgow and in the business circles, where medical skill and professional service are required, was spontaneously assigned to him, not sought by himself. This is high praise but not more than his memory deserves. He possessed the critical faculty in the highest degree, indeed as some thought in perhaps too high a degree; the result was, however, that if any project received his approval it generally turned out to be right. His judgment in insurance work was highly valued by the clear-sighted business men of Glasgow, and at the hospital board, on which at various times he was called upon to serve, his opinions were always received with the highest respect. In opposition he was strong but his views were expressed calmly and courteously, supported by clear reasoning, and received with the weighty consideration which they deserved by those who thought differently from himself. The keynote of all his life's work as a teacher was thoroughness. He had no belief in mere book knowledge, although he had the greatest faith in the value of books as a medium of instruction. He had none of the rhetorical power which made the reputations of the great systematic lecturers of former days; indeed, he believed that the day of systematic lecturing was past. His high aim in medical teaching was the thorough practical and scientific training of the student. Systematic instruction could be obtained by the judicious use of good text-books under the guidance of a medical tutor. Books to be serviceable must be used as works of reference in the laboratory or at the bedside; to tell the worker what to do and how to do it and to verify the work that was being done. He had no great belief in large classes or huge laboratories, where most of the work which the student under proper guidance should do for himself was done for him and where as a necessary result the instruction imparted resolved itself into a series of carefully prepared systematic demonstrations. In the wards he did not think it possible to impart to large numbers of pupils that thorough individual training which made a man able efficiently to investigate a case for himself and to initiate successful treatment. In his own work as a clinical teacher such ideals always inspired him. No detail was too insignificant, no trouble too great, no illustrations too homely, if thereby he could teach a single student effectively to percuss the chest, to palpate the abdomen, to use a stethoscope, or to treat a case. He clearly recognised that the elements of clinical methods might be safely intrusted to efficient assistants but that the greater matters of prognosis, diagnosis, and treatment should be dealt with by the chief alone. That his method was successful is proved by the widespread opinion that Dr. Finlayson's students generally turned out to be good practical men when their studies were ended, whether they afterwards devoted themselves to scientific research or to private practice.

Apart from his medical studies Dr. Finlayson was a man of wide culture and general reading. He was genuinely interested in literature, especially in poetry, archæology, and theology. Although a great medical librarian and bibliographer he was in no sense a collector of books; his private library consisted chiefly of works of reference, amongst which dictionaries of all kinds abounded. In all his work it was a necessity of Dr. Finlayson's mind that his statements and conclusions should be accurate and exact; hence the necessity he felt for all works that assisted towards this end. He believed that some knowledge of medical history might supply the lack of experience which all young practitioners must feel, and this belief inspired the demonstrations on medical bibliography which he frequently gave in the library of the Faculty. He was essentially a religious man and his walk and conversation were characterised by a deep and unobtrusive piety. His interest in the welfare of his assistants and students was unfailing. He followed them in their career after they had gone out into the world and whenever possible he encouraged them on their way. As an example of this unselfish sympathetic interest it may be mentioned that after the death of his old assistant, Dr. John Moyes of Largs, he with infinite trouble carried through the press that gentleman's work on medicine and kindred arts in the plays of Shakespeare. He was generous in his support of all charitable institutions for the amelioration of the hard lot of the poor and suffering in the city, indeed, in all the relationships of life Dr. Finlayson was a man whom his fellows loved and delighted to honour and his place in Glasgow will not be easily filled.

For many years Dr. Finlayson enjoyed a large and important consulting practice in Glasgow and the west of Scotland and since the retirement of Sir William Gairdner no physician in that part of the country stood higher in the estimation of his medical brethren. His remains were cremated at the Western Necropolis on Oct. 12th and the respect in which he was held was amply proved, not only by the large number of medical men, many of whom had travelled long distances, who assembled to pay their last tribute of respect to their lost friend, but also by the presence at the funeral of many of Glasgow's influential citizens. Dr. Finlayson was never married and he leaves a brother and a devoted sister, who was his life-long companion, to mourn their loss.

JOSEPH MAY, L.R.C.P. EDIN., L.F.P.S. GLASG., L.A.H., J.P.

Mr. Joseph May died at his residence, Rathfriland, county Down, Ireland, after a short illness on Oct. 8th, at the advanced age of 90 years. The deceased was a native of county Down, having been born in Closkett, near Dromara. After studying at the school of the Royal College of Surgeons in Ireland, he took the diplomas of L.A.H. in 1844, L.R.C.P. Edin. in 1859, and L.F.P.S. Glasg. in 1860 He practised all his life in Rathfriland and from 1866 to 1881 (when his nephew, Mr. J. M. Elliott, succeeded him) he was dispensary medical officer for the Rathfriland district. During the last quarter of a century he has practised very little. He was a justice of the peace for county Down and took a great interest in the affairs of the Presbyterian Church (of which he was a member) and of its orphan society. Mr. May was a man of great ability, native shrewdness, and extreme kindness of disposition. For many years he had the best practice of his district, and, apart from his professional skill, he endeared himself to all his patients by his affability and true kindness. A man of the keenest humour, a most amusing companion, a brilliant *raconteur*, and a man of wide reading, he was *par excellence* the "character" of Rathfriland for many years. Hospitable to the last degree, there was no more enjoyable dinner-table in county Down than his. He was a great friend of Captain Mayne Reid the novelist (both came from the same district), and there is a story current in Rathfriland that when on one occasion that popular writer (some say it was in "The Headless Horseman") had difficulty in extricating his hero from what seemed an impossible *impasse*, he consulted his old friend Mr. May who at once solved the question. The world is all the poorer by the death of the popular and genial Mr. May.

TOM WALKER, M.B., B.S. LOND., M.R.C.S. ENG., L.R.C.P. LOND.

A REMARKABLE career has been brought to too early a close by the death of Dr. Tom Walker, and Manchester has lost, in the words of an obituary notice, "a man of brilliant parts and considerable promise." But he lived long enough to show how a man with the requisite character and mental qualifications may take his own way through the world. He began his independent life as a pupil teacher in a Manchester board school and while there won a scholarship which enabled him to go to St. John's Training College at Battersea. After two years' residence he received a certificate as a public elementary schoolmaster and became an assistant master in the service of the Manchester school board. He worked as a teacher for six years and then, at the age of 28, he decided to give up that calling and to begin the study of medicine. In the meantime he had taken the B.Sc. at the University of London. He entered at the medical school at the Owens College and for some years as a student the struggle was hard; but it was soon evident that not only his courage but his abilities were exceptionally great. He obtained, and was indeed the first holder of, the Professor Tom Jones Memorial Scholarship of £100. In 1901 he qualified as M.R.C.S. Eng., L.R.C.P. Lond. In 1903 he became M.B. Lond. and last year he obtained the B.S. Lond. degree. So that the whole of his short life was spent in strenuous work. For a while he was demonstrator of anatomy at the Owens College and held various positions, as house surgeon at the Southern Hospital and at the Royal Infirmary. He was also for a time resident medical officer to the Manchester workhouse infirmary and at the time of his death was surgeon to the large Manchester workhouse schools at Swinton; and in general practice, as well as in these various appointments, the testimony is that he won the esteem and regard of all who knew him. His ambition was to become the medical officer of an education authority, for which, indeed, he had special and unusual qualifications. He had great practical knowledge of children, gained during the years spent in teaching, a thorough grasp of the principles and practice of school hygiene, and special knowledge of diseases of the eye and ear, and it would have been difficult to find anyone better fitted to deal with that increasingly important branch of medical work. During the past summer he gave great assistance to Dr. A. Brown Ritchie in the systematic testing of the sight of the children in the public elementary schools in Manchester on behalf of the education committee. He was never physically robust and in his striving onwards and upwards without pause and ever, as it were, straining at the leash, there is no doubt that his strength was overtaxed. At the time of his death he had just passed his thirty-seventh year. His funeral took place at the Manchester crematorium and the large attendance of medical men and nurses and of representatives of the various institutions which he had served was evidence of deep and widespread sympathy and of the esteem in which he was held.

GEORGE COLE-BAKER, M.D. DUB., L.R.C.P. IREL.

Dr. George Cole-Baker of Totton, Southampton, died somewhat suddenly from heart disease on Sept. 26th at the age of 46 years. He received his professional education at the University of Dublin where he graduated as M.B. in 1891; in 1899 he proceeded to the degree of M.D. and also took the diploma of L.R.C.P. Irel. He held the appointments of assistant to the master of the Coombe Lying-in Hospital and examiner in midwifery and gynæcology in the University of Dublin but he gave up his prospects of success in that city in consequence of symptoms of heart disease making their appearance. He was for a time assistant medical officer of health at Whitby in Yorkshire, where he held the appointments of surgeon to the cottage hospital and physician to the isolation hospital. He then removed to Bexhill in Sussex and about four months ago went to Totton with the intention of joining Mr. H. A. Sheppard in partnership. The coroner decided that an inquest was not necessary, as Dr. Cole-Baker's death was evidently due to natural causes.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced: Dr. Manuel Blancas, professor of children's diseases in the University of Buenos Ayres.—Dr. E. Adamiuk, formerly professor of ophthalmology in the University of Kazan.—Dr. N. Bistroff, formerly professor of children's diseases in the Military Medico-Chirurgical Academy, St. Petersburg.—Dr. Y. Weinlechner, formerly extraordinary professor of surgery in the University of Vienna.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen have passed the Second Professional Examination in Anatomy and Physiology held on Oct. 4th, 5th, and 8th:—

Kakobad Cowasji Ankleshria, Grant Medical College, Bombay; Frank Robert Lowth Atkins, Guy's Hospital; Thomas Stratford Bradburn, Edinburgh and Birmingham Universities; Thomas Frederick Brown, Guy's Hospital; Algernon Edgar Percy Cheesman, Guy's Hospital; Rustom Nussorwanji Coorlawala, L.M. & S., D.P.H. Cantab., L.R.C.P. & S. Edin., Hyderabad, London and Edinburgh University; Caetano José Fernandes, Grant Medical College, Bombay; Charles Joshua Fox, Charing Cross Hospital; Archibald Louis George, L.D.S. Eng., Guy's Hospital; Frank Melville Harvey, St. Mary's Hospital; Wilfrid Lawrence Hibbert, Guy's Hospital; Sohrab Maneckji Khambata, L.M. & S., Grant Medical College, Bombay; Charles Eric Wells McDonald, Grant Medical College, Bombay, and King's College; Arthur Oscar Mitchell, Westminster Hospital; Arthur Morgan, B.A. Cantab., Charing Cross Hospital; Rupert Henry Nolan, Grant Medical College, Bombay, and University College; Max Nurick, Liverpool University; Philip Douglas Oakley, Leeds University; Jeremiah John O'Mullane, Queen's College, Cork; Jean René Perdrau, Guy's Hospital; John James Pierce, St. Mary's Hospital; William Thomas Quinlan, University College, Cardiff; David Davey Rosewarne, Otago University, New Zealand; Samuel Shepheard, St. Thomas's Hospital; Alan Richmond Snowdon, St. Bartholomew's Hospital; Richard Lionel Spittel, L.M. & S., Ceylon; Cecil Gordon Sprague, Guy's Hospital; Leonard Herbert Taylor, Charing Cross Hospital; Frederic Charles Victor Thompson, Guy's Hospital; Sohrab Shapoorji Vazifdar, L.M. & S., Grant Medical College, Bombay; and Charles Witts, Guy's Hospital.

The following gentlemen passed the examination in Practical Pharmacy held on Oct. 11th:—

Gordon Silvanus Ashby, St. Thomas's Hospital; Frank Basford, St. Mary's Hospital; Thomas Mulholland Bellow, Liverpool University; Robert Trail Brotchie, London Hospital; Guy Oldham Chambers, St. Bartholomew's Hospital; Arthur Fitzwilliam Comyn, B.A. Cantab., Cambridge University and King's College Hospital; Donald Maxwell Cox, Charing Cross Hospital; William Agar Scholefield Duck, private study; Herbert James Duske, St. Mary's Hospital; Maurice Mason Earle, Guy's Hospital; William Morgan Evans, University College, Cardiff; William Deane, St. Thomas's Hospital; Gilbert Egerton Green, University of Liverpool; David Henry Griffiths, University College, Cardiff; Sydney Harold Griffiths, Middlesex Hospital; Alfred Ernest Wilson Hird, Cambridge and Birmingham Universities; George Holman, Birmingham University; John Brook Henderson Holroyd, Sheffield University; Arthur Stanley Hoole, London Hospital; Rupert Llewellyn Jones, London Hospital and private study; Francis William Lastic, Sheffield University; David McRae, London Hospital and private study; Robert Telford Martin, London Hospital; Matthew William Baillie Oliver, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Frederick Whitly Quirk, St. Mary's Hospital; George Frederick Randall, Middlesex Hospital; Edmund Ralph Sircom, University College, Bristol; Edward Smeed, University College Hospital; Arthur Henry Leopold Thomas, Cambridge University and St. Mary's Hospital; Walter George Howard Masterman Verdon, Cambridge University and St. Thomas's Hospital; and Stanislaus Swonnel Morton Wood, Westminster Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—At a meeting of the Council held on Oct. 11th the undermentioned diplomas were conferred upon the following gentlemen who have now complied with the necessary requirements:—

Diploma of Fellow.—David Kirkpatrick Coutts, M.B., B.S. Lond., M.R.C.S., L.R.C.P., St. Thomas's Hospital; and Robert Hutson James, M.R.C.S., L.R.C.P., St. George's Hospital.

Diploma of Member.—George Ford, M.B. Toronto, of Toronto University and University College Hospital; and Wilbert Ernest McLellan, M.B. Toronto, of Toronto University and London Hospital.

Licence in Dental Surgery.—Reginald Hudson Astbury, Birmingham University; Ernest Gibbon, Durham; William Alfred Helyar, Guy's Hospital; Percy Vivian Giles Pedrick, Guy's Hospital; and Charles Cook Pooley, Middlesex and Royal Dental Hospitals.

UNIVERSITY OF CAMBRIDGE.—Dr. G. H. F. Nuttall, F.R.S., of Christ's College, has been elected Quick Professor of Biology. The special department assigned to the chair is the study of the protozoa, especially such as cause disease. Professor Nuttall resigns the readership of hygiene to which he was appointed in last Easter term. To him is chiefly due the institution of the University examination for the diploma in tropical medicine and hygiene.—The following have passed both parts of the Sanitary Science Examination and are entitled to the University diploma in Public Health:—

A. Baker, R. S. Beatty, F. E. Cane, R. W. Clements, E. McCall, H. A. Macewen, A. Martin, J. C. Mottram, F. Murray, N. R. J. Rainier, F. A. Smith, F. E. Taylor, A. G. Welsford, and F. A. Wille.

At the Congregation on Oct. 11th the following degrees were conferred:—

M.D.—S. E. Dore, St. John's.
M.B.—O. V. Payne, St. John's.
M.B. and B.C.—R. S. Taylor, Downing.

University College, Bristol: Faculty of Medicine.—At the annual distribution of prizes on Oct. 2nd the following were awarded:—Winter Session.—Medicine prize, A. E. Iles; certificate, L. Short. Surgery prize, A. E. Iles; certificate, L. Short. Hygiene prize, A. E. Iles; certificate, J. W. Willcox. Physiology—Part I.: prize, W. Reynolds; certificates, P. Veale, F. Morgan, G. Applegate, and A. Wigmore. Part II.: prize, R. Hiley; certificates, P. Veale, F. Morgan, A. Wigmore, W. Reynolds, J. Morgan, and G. Griffiths. Part III.: prize, P. Veale; certificates, W. Reynolds, G. Griffiths, E. Barker, H. Hull, and M. Lopez. Biology prize, S. Marle; certificates, H. Hiley, F. Nicholls, L. Watkins-Baker, J. Hudleston, T. Ashley, and W. Neale. Pharmacology prize, C. A. Joll; certificates, T. B. Dixon, E. Sercom, and S. H. Kingston. Senior anatomy prize, C. Joll; certificates, E. Holborow, T. Dixon, A. J. Wigmore, and F. Morgan. Junior anatomy prize, P. Veale; certificates, W. Reynolds, H. Hull, and J. Morgan. Summer session—Lady Haberfield entrance scholarship, P. Veale. Pathology prize, P. S. Tomlinson and J. Willcox (equal). Medical jurisprudence prize, P. S. Tomlinson; certificates, J. W. Willcox and A. E. Iles. Operative surgery prize, J. W. Willcox; certificate, A. E. Iles. Midwifery prize, B. A. Stone; certificates, C. Clarke, L. Short, and E. Sircom. Practical medicine, surgery, and midwifery prize, C. Clarke; certificate, E. Sircom. Materia medica prize, R. Hiley; certificates, F. Rippon and P. Veale. Practical chemistry prize, S. Marle; certificates, L. Watkins-Baker, V. Pinnock, and H. Hiley. Summer anatomy prize, P. Veale; certificates, R. Hiley, W. Reynolds, G. Griffiths, and H. Hull. Special prize in medical terminology, P. S. Tomlinson; certificate, J. W. Willcox. Clinical scholarships and prizes: Martyn memorial pathological scholarship (value £10), V. B. Green-Armytage. Tibbits memorial prize (value nine guineas) for practical surgery, H. Goodden. Suple medical prize and gold medal, V. B. Green-Armytage. Suple surgical prize and gold medal, P. Connellan. Augustin Prichard prize for anatomy, V. B. Green-Armytage. Clarke scholarship (£15) for proficiency during dressership, J. Blackett. Henry Marshall prize (£12) for proficiency during dressership, J. W. Willcox. Sanders scholarship (£22) for proficiency in medicine, surgery, and diseases of women, J. Blackett. Committee's gold medal, awarded to the student who has most distinguished himself during his career, J. Blackett. Committee's silver medal, awarded to the next most distinguished student, V. B. Green-Armytage.

Royal College of Surgeons in Ireland.—The winter session commenced on Oct. 15th, when the following prizes of the previous session were distributed by Mr. H. R. Swanzy, the President of the College:—Barker anatomical prize (£31 10*s.*): P. G. M. Elvery. Carmichael scholarship (£15): C. Greer. Gold and silver medals in operative surgery: gold, D. Adams; silver, R. M. Bronté. Stoney memorial gold medal in anatomy: G. S. Levis. Descriptive anatomy: junior: W. A. Swan, first prize (£2) and medal; A. A. Pelissier, second prize (£1) and certificate. Senior: G. C. Sneyd, first prize (£2) and medal; I. Soher, second prize (£1) and certificate. Practical anatomy: first year: H. D. Gasteen, first prize (£2) and medal; H. G. P. Armitage, second prize (£1) and certificate. Second year: H. J. Hedley, first prize (£2) and medal; Miss I. M. Clarke, second prize (£1) and certificate. Practice of medicine: H. W. White, first prize (£2) and medal; D. Adams, second prize (£1) and certificate. Surgery: H. W. White, first prize (£2) and medal; T. Sheehy, second prize (£1) and certificate. Midwifery: H. C. Carden, first prize (£2) and medal; W. E. M. Hitchins and T. Sheehy (equal), second prize (£1) and certificate. Physiology: H. J. Hedley, first prize (£2) and medal; J. Menton, second prize (£1) and certificate. Chemistry: J. J. Lyons, first prize (£2) and medal; R. White, second prize (£1) and certificate. Pathology: H. F. Kay, first prize (£2) and medal; G. S. Levis, second prize (£1) and certificate. Physics: R. White, first prize (£2) and medal; R. H. Weir, second prize (£1) and certificate. Practical Histology: R. Adams, first prize (£2) and medal; O. W. J. Wynne, second prize (£1) and certificate. Practical Chemistry: J. J. Lyons and P. I. Wigoder (equal), first prize (£2) and medal. Public Health and Forensic Medicine: T. O. Boyd and O. T. Collimore (equal), first prize (£2) and medal. Materia Medica: J. J. Lyons, first prize (£2) and medal; H. W. White, second prize (£1) and certificate. Biology: H. D. Gasteen, first prize (£2) and medal; J. S. Pegum, second prize (£1) and certificate.

The Play of the Children of the Poor.—The Education Bill now before Parliament contains a clause granting powers to local educational authorities to deal with the recreation of the children attending the public elementary schools. For 17 years the Children's Happy Evenings Association has by means of 135 branches in 43 districts in London entertained many thousands of children, and as it was felt that the clause in the Education Bill might result in the extinction of the association a conference on the matter was held on Oct. 5th in the Persian Hall at 47, Brook-street, lent for that purpose by Mrs. Bland-Sutton. Lady Jersey, who presided, emphasised the fact that the clause had been rushed through too suddenly so that the association had not had an opportunity of placing its opinion before the legislature. She mentioned that the association amused the children at a cost of less than 6*d.* a head per annum. The clause gives the local educational authority power "to provide, for children attending a public elementary school, vacation schools, vacation classes, play centres, or means of recreation during their holidays, or at such other times as the local education authority may prescribe," and Sir E. Cornwall stated that though the estimated cost of the scheme was £20,000 he thought the cost would work out at something like £300,000 for London. The conclusion of the meeting was embodied in the following motion being carried, proposed by Sir E. Cornwall and seconded by Lord Sanderson:—

> That this meeting considers that the amendment made to the Government Clause 35 in the Education Bill will not promote the best interests of organised play and recreation for the children of the elementary schools; and authorises the executive committee to take all possible steps to approach the Minister of Education and the House of Lords with a view to safeguarding the voluntary work of the Children's Happy Evenings Association and to secure a full consideration of the whole question.

Source des Deux Reines, Aix-les-Bains.—A correspondent writes:—The thermal treatment of diathetic diseases such as gout and rheumatism, when associated with methodical massage and exercise, has for effect presumably to dislodge accumulations of waste products from the tissues and to throw them into the blood stream. The next step is to secure the elimination from the system of these "mobilised" waste products, for which purpose copious sudation and the systematic ingestion of comparatively large quantities of a moderately mineralised water are usually employed. At Aix-les-Bains, it has until recently been the practice, owing to lack of local facilities, to send patients on to Evian or other similar watering-places to complete the "cure" on these lines. Two or three years ago, however, a spring was discovered on the Mont Revard which by reason of its moderate mineralisation, its purity, and its abundance, promised to fulfil all requirements. The great difficulty here, as elsewhere, was to provide the funds to cover the cost of bringing the water into Aix under satisfactory hygienic conditions. The inhabitants subscribed the necessary capital and the *Source des Deux Reines* is now available for therapeutical purposes, so that the complete "cure" can be carried through on the spot. The water is brought into the town in deeply laid metal pipes and every precaution has been taken to secure freedom from all possible source of contamination both at its source and in course of distribution. It reaches the town at approximately the temperature of the water at the spring (46° F.). The undertaking is mainly due to the initiative of the local medical men, most of whom testified to their appreciation of the value of this innovation by subscribing part of the capital. Their participation in the undertaking, though only to the extent of a tenth of the required capital, had the wished-for result of inspiring confidence so that *no difficulty was experienced in obtaining* the remainder.

DEATH OF A CENTENARIAN.—Mrs. Mary White, who completed her hundredth year in June last, died at the Stapleton workhouse, Bristol, on Oct. 9th.

MEDICAL MAGISTRATES.—Mr. Thomas Joseph Frost, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., of Llanhilleth, near Newport, has been placed on the commission of the peace for Monmouthshire.—Mr. Percival Wood, M.R.C.S. Eng., L.R.C.P. Lond., has been made a justice of the peace for the county of Sussex.

THE LATE MR. GRÆME BISDEE FRASER.—The committee of the Children's Convalescent Home at Weston-super-Mare has issued an appeal for funds to erect a memorial to the late Mr. Fraser, who was for several years honorary medical officer to the institution and also to the Royal West of England Sanatorium in the same town. Mr. Fraser, who was highly respected in Weston-super-Mare, died quite recently from pneumonia after a very short illness.

THE GUILD OF ST. LUKE.—The annual medical service held under the auspices of the Guild of St. Luke took place at St. Paul's Cathedral on St. Luke's eve, Oct. 17th. There was a good attendance and there were many medical men present in their academic robes. The first lesson was read by Dr. H. A. Caley and the second by Sir Dyce Duckworth. The choir was drawn from the ranks of the London Gregorian Choral Association. The Rev. Canon Newbolt, warden of the guild, preached an eloquent sermon on the relationships of the two great professions of religion and medicine in ministering to the needs of mankind. The Rev. Canon concluded with an appeal on behalf of the College of St. Luke, the present income of which needed to be largely supplemented if the good work so successfully begun was to be continued.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the above society was held on Oct. 10th, Dr. G. F. Blandford, the President, being in the chair; 14 directors were present. Proposals for membership were read from two medical men and they were duly elected. Since the last court two widows, annuitants of the charity, had died and one had become ineligible for further grants owing to an increase of income; of the two who had died one had received in grants the sum of £621 and the other £500, their husbands having paid in subscriptions £52 10*s.* and £15 15*s.* respectively. The one who was no longer eligible had received £900, her husband having paid a composition fee of £21 for life membership at the time of his election. It was proposed that the sum of £558 should be distributed among the annuitants of the charity as a Christmas present, each widow to receive £10, each orphan £3, and those on the Copeland fund £5 each. Six letters asking for relief had been received during the past quarter but this had to be refused owing to the applicants being ineligible under the by-laws of the society, relief being only granted to the widows of deceased members and to orphans below the age of 16 years. Any registered medical practitioner resident within a radius of 20 miles from Charing Cross is eligible for membership. Further particulars may be obtained from the secretary, 11, Chandos-street, Cavendish-square, London, W.

THE QUESTION OF MATERNITY HOSPITALS IN THE TURKISH PROVINCES.—The Ministry of the Interior some time ago invited the provincial authorities of the Ottoman Empire to proceed, with as little delay as possible, to the construction, in the principal places of the various districts, of hospitals with special pavilions for women in confinement, and to create maternity sections in the already existing infirmaries. The necessary funds to cover the expenses had to be gathered by the respective local municipalities. The administrative council of the vilayet of Aidin has been lately considering the question and declares in its latest report that it would be, for that vilayet, absolutely impossible to find sufficient resources for the foundation of such establishments. The report mentions also the fact that even if it were possible to construct them they would not serve the purpose in an efficient manner, as the female population of the different districts could not take advantage of them, the distances being so great and demanding sometimes a ten-hours' drive from one place to another. Even in the principal centres it would be very difficult, almost impossible, to bring a parturient woman, whose confinement requires instrumental or surgical interference, to the hospital of a chief district. The council therefore proposes, according to local newspapers, a simpler method of assistance. It consists in engaging for every two or three *cazas* (districts) a qualified accoucheur with necessary experience and equipped with a complete set of instruments, &c., whose duty it should be to render the required assistance at the first call and to visit in person the places where his presence would be necessary. The allowances of these accoucheurs should, it is considered, be paid by the municipality of Smyrna.

BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—The annual dinner of the Brussels Medical Graduates' Association will take place at the New Gaiety Restaurant, Strand, W.C., on Tuesday, Oct. 30th, at 7.30 P.M. On previous occasions the dinner has been preceded by the annual meeting, held during July, but it is anticipated that by holding it at this time of the year a much larger attendance will be secured. This year also an innovation is introduced by a special invitation to all members to bring ladies as guests. The price of the dinner is 7*s.* 6*d.*, exclusive of wine. Application for tickets should be made to Dr. Francis H. Edwards, honorary secretary, Camberwell House, S.E.

TENTH ANNUAL MEDICAL CONGRESS OF ROUMANIA.—The Franco-English newspaper, the *Levant Herald*, published in Constantinople, gives interesting details of the above congress which is organised by the General Medical Association of Roumania. Its tenth annual meeting has lately taken place in the bacteriological amphitheatre of the medical faculty of the University of Bucharest. General Mano (Minister of the Interior and President of the Medical Council *ad interim*), Dr. Obreja, (Director General of the Sanitary Service of Roumania), and about 200 medical men from all parts of the country were present. Dr. Leonte, the President of the Congress, in his opening address thanked the Roumanian Government for the interest which it takes in the medical and sanitary service organised by the association. He mentioned with special gratitude the important modification of the pension law, according to which all the State medical men would henceforward enjoy the right to a retiring allowance. Dr. Leonte also said that the sanitation of the country would more quickly be improved, thanks to the funds which were coming in from the State lottery and to the foundation of new rural hospitals. He expressed the hope that the recent sanitary law would be submitted to, and would receive proper attention from, the House of Parliament at the opening of its new session. General Mano said in his address that he was present at the congress not only in his capacity as Minister of the Interior but also as a sincere friend of the medical profession, for which he felt great affection and esteem. Dr. Obreja rendered homage to the representatives of the medical body and described in a few words the new project relative to the modification of the sanitary law. He also referred to the charitable spirit of the King who had founded in different places of the country 32 new rural hospitals. Dr. Gheorghian, the general secretary of the association, gave a detailed report of the administration of the central committee of the association for the year 1905–1906 and spoke with eloquence of the progress accomplished by the medical body during the last 40 years.

BOOKS, ETC., RECEIVED.

ADLARD AND SON, Bartholomew Close, London.

The Puerperium or the Management of the Lying-in Woman and Newborn Infant. By C. Nepean Longridge, M.D., Ch.B. Vict., F.R.C.S. Eng., M.R.C.P. Lond., Pathologist and Registrar, late Resident Medical Officer at Queen Charlotte's Lying-in Hospital. Price 5*s.*

ARNOLD, EDWARD, 41 and 43, Maddox-street, Bond-street, London, W.

The Diagnosis of Nervous Diseases. By Purves Stewart, M.A., M.D., F.R.C.P., Physician to Out-patients at the Westminster Hospital, Joint-Lecturer on Medicine in the Medical School, Physician to the Royal National Orthopædic Hospital, Assistant Physician to the Italian Hospital. Price 15*s.* net.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta street, Covent Garden, London, W.C.

The Common-Sense of Voice Development. By Irene San Carolo, Licentiate of the Royal Academy of Music, Associate of the

Royal College of Music, and Patrick Daniel, D.P.H., L.M.S., L.R.C.P., M.R.C.S. Eng. Price 5s. net.

The Nature and Treatment of Cancer. By John A. Shaw-Mackenzie, M.D. Lond. Fourth edition, revised. Price 2s. 6d. net.

Blackwood, William, and Sons, Edinburgh and London.

The CHCl$_3$ Problem. By Richard Gill, B.Sc., M.B., B.S. Lond. Univ., F.R.C.S. Eng., Chief Chloroformist to St. Bartholomew's Hospital. Vol. I. Analysis. Vol. II. The Physiological Action of CHCl$_3$. Price 10s. net, 2 volumes.

Constable, Archibald, and Co., Limited, London.

The Life of Pasteur. By René Vallery-Radot. Translated from the French by Mrs. R. L. Devonshire. Popular Edition. Price 7s. 6d. net.

Dent, J. M., and Co., 29 and 30, Bedford-street, London, W.C.

Sir William Flower. By R. Lydekker. (English Men of Science. Edited by J. Reynolds Green, Sc.D.) Price 2s. 6d. net.

Duckworth and Co., 3, Henrietta-street, Covent Garden, London, W.C.

Text-book of Fungi. Including Morphology, Physiology, Pathology, Classification, &c. By George Massee, Principal Assistant (Cryptogams) Herbarium, Royal Botanic Gardens, Kew. Price 6s. net.

Gill, George, and Sons, Limited, 13, Warwick-lane, London, E.C.

Nursing at Home. With Chapters on the Care of Infants and Children. By J. D. E. Mortimer, M.B. Lond., F.R.C.S. Eng., Lecturer and Examiner, London County Council, formerly Registrar at the Hospital for Sick Children, and R. J. Collie, M.D. Aberdeen, Medical Superintendent of the Hygiene, Ambulance, and Home Nursing Classes of the London County Council. Price 3d. net.

Green, William, and Sons, Edinburgh and London.

Green's Encyclopedia and Dictionary of Medicine and Surgery. Vol. II. Bread to Ear. Price not stated.

Lewis, H. K., 136, Gower-street, London, W.C.

Medical Electricity. A Practical Handbook for Students and Practitioners. By H. Lewis Jones, M.A., M.D., F.R.C.P. Lond., Medical Officer in Charge of the Electrical Department in St. Bartholomew's Hospital, late President of the British Electro-Therapeutic Society. Fifth edition. Price 12s. 6d. net.

Aequanimitas. With other Addresses to Medical Students, Nurses, and Practitioners of Medicine. By William Osler, M.D., F.R.S., Regius Professor of Medicine, Oxford. Second edition, with three Additional Addresses. Price 8s.

Macmillan and Co., Limited, London.

Collected Papers on Circulation and Respiration. First Series, chiefly containing Laboratory Researches, By Sir Lauder Brunton, M.D., D.Sc., LL.D. (Edin. and Aberd.), F.R.S., F.R.C.P. Price 7s. 6d. net.

The Cambridge Natural History. Edited by S. F. Harmer, Sc.D., F.R.S., and A. E. Shipley, M.A., F.R.S. Vol. I. Protozoa. By Marcus Hartog, M.A. Porifera (Sponges). By Igerna B. J. Sollas, B.Sc. Lond. Coelenterata and Ctenophora. By S. J. Hickson, M.A., F.R.S. Echinodermata. By E. W. MacBride, M.A., F.R.S. Cash price in Great Britain, 17s. net.

Publications Committee, University of Aberdeen.

Studies in Pathology. Written by Alumni to celebrate the Quatercentenary of the University of Aberdeen and the Quatercentenary of the Chair of Pathology therein. Edited by William Bulloch, M.D., Bateriologist to the London Hospital.

Rebman, Limited, 129, Shaftesbury-avenue, London, W.C.

The Diseases of Women. A Handbook for Students and Practitioners. By J. Bland-Sutton, F.R.C.S. Eng., Surgeon to the Middlesex Hospital, and Senior Surgeon to the Chelsea Hospital for Women, and Arthur E. Giles, M.D., B.Sc. Lond., F.R.C.S. Edin., Surgeon to the Chelsea Hospital for Women, and Gynæcologist to the Tottenham Hospital. Fifth edition. Price 11s. net.

The Year Book Publishers, 40, Dearborn-street, Chicago. (G. Gillies and Co., 23, Gibson-street, Hillhead, Glasgow.)

The Practical Medicine Series, comprising ten volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School.

Vol. I. General Medicine. Edited by Frank Billings, M.S., M.D., and J. H. Salisbury, A.M., M.D. Price 5s.

Vol. II. General Surgery. Edited by John B. Murphy, A.M., M.D., LL.D. Price 8s.

Vol. III. The Eye, Ear, Nose, and Throat. Edited by Casey A. Wood, C.M., M.D., D.C.L., Albert H. Andrews, M.D., and Gustavus P. Head, M.D. Price 6s.

Vol. V. Obstetrics. Edited by Joseph B. De Lee, A.M., M.D., D. Roehler, M.D., and Herbert M. Stowe, M.D. Price 5s.

Vol. VI. General Medicine. Edited by Frank Billings, M.S., M.D., and J. H. Salisbury, M.D. Price 5s.

Price for complete series of 10 volumes (carriage paid), £2 2s.

University Press, Manchester. (Sherratt and Hughes, 60, Chandos-street, London, W.C.)

Text-book on Diseases of the Heart. By Graham Steell, M.D., F.R.C.P., Senior Physician to the Manchester Royal Infirmary. With an Appendix on The Volume of Blood in Relation to Heart Disease. By J. Lorrain Smith, M.A., M.D., Professor of Pathology. Price 7s. 6d. net.

Wright, John and Co., Bristol. (Simpkin, Marshall, Hamilton, Kent and Co., Limited, London.)

Golden Rules of Medical Evidence. By Stanley B. Atkinson, M.A., M.B., B.Sc., of the Inner Temple, Barrister-at-Law; a Justice of the Peace for the County of London; Hon. Sec. of the Medico-Legal Society (London). "Golden Rules" Series. No. XVI. Price 1s.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to The Lancet *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Emtage, Edward Walter, M.R.C.S., L.S.A., has been appointed Medical Officer of Health for the Bideford (Devon) Rural District.

Hammond, E. A., M.D., C.M., has been appointed Clinical Assistant at St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

Haswell, Narcis Richard, M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for the Helston (Cornwall) Rural District Council.

Kennedy, Edward, L.R.C.P. & S. Irel., has been appointed Clinical Assistant at St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

McGlashan, J., M.D. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Newhaven District of the county of Sussex.

M'Queen, J., M.B., Ch.B. Glasg., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Cumnock District of the county of Ayr.

Nuttall, G. H. F., F.R.S., has been appointed to the newly created Quick Professorship of Biology at Cambridge University.

St. Johnston, T. R., M.R.C.S., L.R.C.P., L.S.A., has been appointed Second Resident Medical Officer to the Lewisham Infirmary, S.E.

Thompson, A. G., M.B., B.Ch. Oxon., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

Wilson, Thomas, F.R.C.S. Irel., L.R.C.P. Irel., has been appointed Clinical Assistant at St. John's Hospital for Diseases of the Skin, Leicester-square, W.C.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Belgrave Hospital for Children, Clapham-road, S.W.—Assistant Physician. Also Senior and Junior Resident Medical Officers, the former for six months and the latter for seven months. Honorarium at rate of £20 and £10 a year respectively, with board and lodging.

Birmingham and Midland Ear and Throat Hospital, Edmund-street.—House Surgeon. Salary at rate of £70 per annum.

Birmingham, Aston Union Workhouse and Cottage Homes, Gravelly Hill.—Assistant Medical Officer. Salary £140 per annum, with apartments, rations, and washing.

Bodmin, Cornwall County Asylum.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, increasing to £15 with board, apartments, washing, &c.

Bradford Children's Hospital.—House Surgeon. Salary £100.

Bradford Royal Infirmary.—House Physician. Also House Surgeon. Salaries £100 per annum, with board and residence.

Bury St. Edmund's, West Suffolk General Hospital.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

Cancer Hospital, Fulham-road, S.W.—Surgical Registrar. Honorarium £26 5s. per annum.

Chelsea Hospital for Women, Fulham-road, S.W.—Clinical Assistant.

City of London Hospital for Diseases of the Chest, Victoria Park, E.—Pathologist. Salary 100 guineas per annum.

Clayton Hospital and Wakefield General Dispensary.—Senior House Surgeon, unmarried. Salary £120 per annum, with board, lodging, and washing.

Coventry and Warwickshire Hospital.—Senior House Surgeon. Salary £100 per annum, with rooms, board, washing, and attendance. Also Junior House Surgeon for six months. Salary £50 per annum, with rooms, board, washing, and attendance.

Durham County Hospital.—House Surgeon. Salary £120, with board and lodging.

Evelina Hospital for Sick Children, Southwark.—House Physician and House Surgeon. Salary £80 respectively, with board, residence, and washing. Also Assistant House Surgeon. Salary £70, with board, residence, and washing.

Hornsey Town Council.—Assistant to Medical Officer of Health. Salary £150, with rooms and board.

Hospital for Consumption and Diseases of the Chest, Brompton.—Assistant Physician.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

Hospital for Women, Soho-square, W.—House Physician for six months. Salary £30.

Hull Royal Infirmary.—Casualty House Surgeon. Salary £50, with board and lodging.

Kidderminster Infirmary and Children's Hospital.—House Surgeon, unmarried. Salary £120, without board; £80, with board, and £20 extra for dispensing.

Lanark, Middle Ward Isolation Hospital.—Resident Physician. Salary £140 per annum, with board, &c.

London Skin Hospital, Fitzroy-square, W.—Clinical Assistant.

Macclesfield, Parkside Asylum.—Junior Assistant Medical Officer, unmarried. Salary £140, rising to £160, with apartments, board, and washing.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon and Anæsthetist, unmarried. Salary £50, with board, residence, and washing.

MANCHESTER, CRUMPSALL WORKHOUSE.—Medical Officer. Salary £230 per annum.

MANCHESTER POOR LAW SCHOOLS, Swinton.—Medical Officer. Salary £140 per annum.

MANCHESTER ROYAL INFIRMARY.—Assistant Medical Officer. Salary £50 per annum.

EDICAL DEPARTMENT OF THE ROYAL NAVY.—*Examination for not more than Six Commissions.*

ILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—*Honorary Anæsthetist.*

EWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160.

NEW HOSPITAL FOR WOMEN, Euston-road, N.W.—*Clinical Assistant* (female).

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL.—House Surgeon and House Physician. Salary in each case £110, with board and *residence.*

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—Superintendent of the Laboratory.

ROYAL EAR HOSPITAL, Dean street, Soho, London, W.—*Clinical Assistants.*

ST GEORGE'S HOSPITAL, S.W.—Assistant Surgeon.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.—*Honorary* Anæsthetist.

SALFORD ROYAL HOSPITAL.—Accident House Surgeon and Junior House Surgeon. Salaries at rate of £60 and £50 per annum respectively, with board and residence.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Anæsthetist. Honorarium £20 per annum.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Physician. Salary £100 per annum, with rooms, board, and washing.

STOCKPORT, STEPPING HILL HOSPITAL.—Resident Assistant Medical Officer. Salary £130 per annum, rising to £150, with apartments, rations, &c.

SUNDERLAND INFIRMARY.—House Physician and Pathologist. Salary £20 per annum, with board, residence, and washing.

THROAT HOSPITAL, Golden square, W.—Anæsthetist. Also Senior Clinical Assistant.

WANDSWORTH UNION INFIRMARY, St. John's hill, Clapham Junction.—Junior Assistant Medical Officer, unmarried. Salary at rate of £100 a year, with board, lodging, and washing.

ESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Surgeon.

INDSOR AND ETON ROYAL DISPENSARY AND INFIRMARY.—House Surgeon, unmarried. Salary £120 per annum, with residence, board, laundry, and attendance.

OLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £75 per annum, with board, lodging, and laundry.

HE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Nantgaredig, in the county of Carmarthen, at Sutton Bridge in the county of Lincoln, and at Cullen, in the county of Banff.

Births, Marriages, and Deaths.

BIRTHS.

OYER.—Oct. 14th, at Temperley, Buenos Ayres, Argentine Republic, to Mr. and Mrs. Louis J. Boyer—a daughter. Australian papers please copy.

YERS.—On Oct. 12th, at the residence of her parents, the wife of Charles S. Myers, M.A., M.D. Cambridge, of a son.

RMEROD.—On Oct. 7th, at Beauchamp Lodge, Wimborne, the wife of Ernest W. Ormerod, M.D., of a son.

ITT.—On the 12th October, at Wellesbourne, near Warwick, the wife of R. J. Pitt, L.F.P.S.G., and L.S.A., of a daughter.

IZARD.—On Sept. 28th, at Ireland Island, Bermuda, the wife of Staff-Surgeon A. H. H. Vizard, M.D., Royal Navy, *of a daughter.*

MARRIAGE.

UTTALL—LOXHAM.—On the 9th *inst.*, by the Rev. J. Bell Cox, at St. Margaret's, Princes road, John Stanley *Wardleworth Nuttall,* M.B., of *Belgrave-road,* Darwen, to Violet Leigh, *second daughter* of Mrs. Loxham *of 25, Sandon-street,* Falkner square, Liverpool. At home, Thursday and Friday, *Nov. 22nd* and 23rd.

DEATHS.

AMPREY.—On Oct. 13th, *Richard Orford* Lamprey, aged 62 years, of Wandsworth.

YERS.—On Wednesday, Oct. 10th, 1906, from blood poisoning contracted in the practice *of his* profession, Henry Walter Syers, M.A., M.D. Cantab., &c., *of 75, Wimpole-street,* Physician to the Great Northern Central Hospital, aged 54.

ILLS.—On Oct. 12th, at Lunecliffe, Lancaster, Lieutenant-*Colonel* Caleb Shera Wills, C.B., R.A.M.C. (retired), aged 72.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

"DULCE DOMUM."

Sir James Crichton-Browne, who has been described as the Chrysostom of the medical profession, evidently possesses the gift of versifying as well as of eloquence, for the September number of *Alma Mater* (the magazine of the University of Aberdeen) contains a very spirited English version of "Dulce Domum" from his pen. It *is, of course, the quatercentenary celebrations* at the University of *Aberdeen that have inspired his muse.* Four of his 14 stanzas are *as follows:*—

"*Back they troop from manse* and market,
Crowded *Salon's polished* parquet,
Lonely bouldered glen,
From the Arctic and the Tropic,
Mercenary, philanthropic,
Multifarious men.

Bishops, Judges, Navigators,
Indian Administrators,
Pundits fat and lean,
Soldiers, Pedagogues, and Surgeons,
Sticklebacks and Royal Sturgeons,
Hie to Aberdeen.

* * * *

I remember *Johnnie* Struthers,
Who, with Stephenson and others,
Toiled like busy bees,
To produce from raw material,
Scottish, English, and Imperial,
Passable M.D.'s.

Dulce domum est redire,
When from nestlings blithe or eerie,
That their homes they call,
They return to springs of knowledge,
Welling still in *each old* College,
King's and Marischal."

A HEROIC DOSE OF PHENACETIN.

To the Editors of THE LANCET.

SIRS,—The following account of the indiscriminate use *of* drug taking by the public without medical advice may be of interest. A servant girl, aged 23 years, had been *for a long time* a sufferer from *intense headache* with vomiting. Coming *to the* conclusion that hospital *advice and* medical treatment were of no avail she *took* the law into her own hands by going to a druggist's shop where she obtained a bottle of phenacetin tablets (25, five-grain dose) and an antipyrin powder (ten grains). She managed *to* swallow the tablets and powder inside five minutes, and an hour afterwards asked leave to go and buy another bottle. Eight hours afterwards she complained of loss of power in the limbs and on the next morning she was dazed and stupid, saying that she *felt as if* recovering from the effects of chloroform. *Fortunately* she had not crushed the tablets before swallowing, *but at* any *rate* 125 grains *for* a dose, without fatal *results, must* be near a *record.*

I am, Sirs, yours faithfully,

Oct. 16th, 1906. W. W. BELL, L.S.A. Lond.

A MEDICAL ALIAS.

A VERY undesirable alien was *ordered recently* at Marlborough street police court *to* undergo three months' *imprisonment,* at the end of which sentence he will be recommended *for deportation. He* was charged with living upon the prostitution *of a woman who* gave *evidence* against him and he was well known *to the police* as *one of* the class of men who exist by these means. His real name was Krappert but the alias by which he was apparently best known was that of Dr. Williams, and *as persons of his* class who adopt medical titles frequently do so with a *view to dangerous* criminal practices it is satisfactory to know that compulsory *return to Germany* will follow the conclusion of his term of imprisonment. *It was stated that* he had evaded military service in his own country.

A *COINCIDENCE.*

To the Editors of THE LANCET.

SIRS,—I note in THE LANCET of Oct. 6th a letter from Mr. Fredk. W. Smith headed "A *Coincidence.*" Another coincidence in which Smiths figured prominently may *interest him.* In 1902 I received a telephonic message that a Mr. Smith had *died suddenly,* would I go at once. I went and found facts as stated and *returned* home to advise the coroner. Upon reaching my house I was informed *that there* had been another message stating that a Mr. Smith at another address had been taken suddenly ill and they were afraid he was dead. This was also a *fact.* I therefore had two sudden deaths to notify to the coroner, the *one* being William *John* and the other John William Smith. These two were in no way *related* and neither had been previously professionally *treated.* Upon the *day of the* inquest a third inquiry was held upon the sudden death of *another William* Smith, and it transpired that all three *must* have died at practically the same time. The coincidence was sufficiently marked to earn a paragraph in the evening papers, in which they were unkind enough to state that two of these Smiths had been under the "treatment" of the same doctor, the readers apparently being left to draw their own conclusions. I am, Sirs, yours faithfully,

North Kensington, Oct. 12th, 1906. S. H. GREENE.

QUININE IN CEYLON.

CEYLON'S 4,000,000 inhabitants maintain a fair standard of health, to which happy condition a climate almost unsurpassed for variety does much to contribute. But malarial fever is one of the scourges of the island and last year the North-Western and Sabaragamuwa Provinces suffered in this respect more than usual. Accordingly the experiment of administering quinine regularly as a prophylactic, already tried with some success on the prisoners in Mahara and Mutwal jails, was extended to an area in the North-Western Province, and the results obtained in one of the villages are recorded in the annual report on Ceylon for 1905 just issued by the Colonial Office. Of 232 villagers who were treated with quinine 36 (or 15 5 per cent.) suffered from malaria, while of 210 boutique-keepers and 24 villagers who were not treated with quinine 140 (or 66 per cent.) of the former and 12 (or 50 per cent.) of the latter suffered from malaria. The number of people in the village was 466. Commenting on the matter in an introductory note to the report, the Governor, Sir Henry A. Blake, observes: "I have arranged with the principal civil medical officer to extend this experiment to all malarial districts during the present year by grouping the villages and sending to each group an itinerant dispenser, who will administer quinine at regular intervals during the malarial season, while all schools will be similarly treated. The result of the experiment cannot fail to be interesting, and will, I hope, be satisfactory."

LITERARY QUERIES.

To the Editors of THE LANCET.

SIRS,—Could you let me know where, in London, I could consult Dr. McGregor's Report on Malaria in Egypt and in Italy (1902) and the Reports of the "Congrès Égyptien de Médecine" held in Cairo?

I am, Sirs, yours faithfully,

MALARIA.

⁂ We should think that our correspondent could most probably see the documents about which he inquires in the library of the London School of Tropical Medicine, Connaught-road, Albert Dock, E., by application to the secretary.—ED. L.

YELLOW FEVER IN CUBA.

YELLOW fever, though not rife in Cuba, is still prevalent to such an extent as to cause a considerable amount of uneasiness. In Havana, according to the *New York Times* of Oct. 2nd, there were five cases, and there were several suspected cases at Cienfuegos and elsewhere in Santa Clara province. It is also said that transportation, hotel, and other interests most affected by the American quarantine against Cuba are preparing to petition Governor Taft that the United States, whether the present American control be temporary or otherwise, should retain permanent control of the sanitary affairs of Cuba.

POPULAR WORKS ON HYGIENE.

To the Editors of THE LANCET.

SIRS,—Could any of your readers kindly refer me to a small popular work on "Hygiene" or such allied subject? I have been asked to give a lecture on a popular medical subject to the members of a literary society this winter and have chosen the above as my subject, but am not bound down to this exclusively. Such a subject as "Recreation and Health" would suit equally well. Thanking you in anticipation, I am, Sirs, yours faithfully,

ESSAYIST.

THE DATING OF BOOKS.

IN THE LANCET of Sept. 15th we reviewed "A System of Surgical Nursing." We were able to speak very favourably of the book but we complained that the book was undated. The publishers have now informed us that the date was given with the printers' imprint and at the end of the preface. This is so, but the fact remains that the title-page does not contain the date, and for the last 400 years readers have been able to find on the title-page the date of the publication of any book and we maintain that they have a right to find it there. There has been a tendency in recent years and with certain publishers to omit the date of publication from the title-page, with what object we will not venture to guess. This tendency is to be regretted and we hope that in future all publishers will explicitly state on the title-page the year in which the book appears.

MEDICAL ANECDOTES.

To the Editors of THE LANCET.

SIRS,—I am making a collection of humorous incidents and repartee relating to doctors, surgeons, and the medical profession generally. May I ask any members of the profession under whose notice any such incidents have come to favour me with them, giving, so far as necessary, any explanation of the circumstances?

I am, Sirs, yours faithfully,

RUDOLPH DE CORDOVA.

2, Pump-court, Middle Temple, E.C.,
Oct. 12th, 1906.

MESSRS. Allen and Hanburys ask us to state that the general conduct of their business is in no way interfered with by the fire which broke out in the Bethnal Green works on the night of Thursday, Oct. 11th. The fire was confined to two large buildings used respectively for the bottling of oils and the manufacture of hospital furniture. The warehouses, laboratories, offices, and printing department were in no way affected and there is consequently no interruption whatever of business.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (32nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond street (3 P.M.).

TUESDAY (23rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (24th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (25th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (27th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (22nd).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M.: Paper:—Dr. Dudgeon and Mr. P. Sargent: The Bacteriology of Aseptic Wounds.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN (20, Hanover-square, W.).—7 P.M.: Council. 8 P.M.: Inaugural Address:—Mr. E. Lloyd-Williams (President). Discussion on Mr. F. L. Dodd's paper on Some Notes on the Relation of Dental Conditions to Pulmonary Tuberculosis (postponed from the June meeting) (opened by Mr. J. F. Colyer). The Meeting will be made Special for the final consideration of the Scheme for the Union of Medical Societies, and a vote will be taken.

TUESDAY (23rd).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M.: Dr. A. M. Gossage: On Some Aspects of Dilatation of the Heart (with epidiascope demonstration).

MEDICO-LEGAL SOCIETY (22, Albemarle-street, W.).—8.15 P.M.: Annual General Meeting. Election of Officers and Council. Discussion on Is what is commonly known as Euthanasia ever Justifiable? (opened by Dr. R. Wells).

WEDNESDAY (24th).—HUNTERIAN SOCIETY (Metropolitan Hospital, Kingsland-road, N.E.).—4 P.M.: Clinical Afternoon.

THURSDAY (25th).—HARVEIAN SOCIETY OF LONDON (St. Mary's Hospital).—8 P.M.: Cases will be shown by Dr. S. Phillips, Dr. A. P. Luff, Dr. W. Harris, Dr. J. Broadbent, Dr. S. Spicer, and Mr. J. Clarke. 8.45 P.M.: Clinical Meeting.

FRIDAY (26th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M.: Clinical Evening for the Exhibition of Clinical Cases followed by Discussion. Patients in attendance at 8 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (22nd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Diseases of the Eye. 5 P.M.: Lecture:—Dr. Saunders: Clinical.

ICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies street,
.C.).—4 P.M.: Dr. G. Little: Clinique. (Skin.) 5.15 P.M.:
cture:—Dr. P. Stewart: Recurrent and Transient Palsies.
DON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital,
eenwich).—2.30 P.M.: Operations. 2.30 P.M.: Sir D. Duckworth:
edicine. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair
omson: Throat and Ear. Out-patient Demonstrations:—10 A.M.:
rgical and Medical. 12 noon: Ear and Throat.
DAY (23rd).—POST-GRADUATE COLLEGE (West London Hospital,
ammersmith road, W.).—2 P.M.: Medical and Surgical Clinics.
iseases of the Throat, Nose, and Ear. 2.30 P.M.: X Rays. Opera-
ons. Diseases of the Skin. 5 P.M.: Lecture:—Dr. G. C. Low:
nkylostomiasis.
DICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street,
.C.).—4 P.M.: Dr. W. Harris: Clinique. (Medical.) 5.15 P.M.:
ecture:—Dr. D. Grant: On Menière's Disease and Allied
onditions.
DON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital,
reenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. H. T. Howlett:
edicine. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris:
iseases of the Skin. Out-patient Demonstrations:—10 A.M.:
urgical and Medical. 12 noon: Skin.
TIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-
quare, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr.
errier: Cases in the Wards.
ARING CROSS HOSPITAL.—4 P.M.: Demonstration:—Dr. Mercier:
(Mental). (Post-Graduate Course.)
NTRAL LONDON OPHTHALMIC HOSPITAL (Gray's Inn-road, W.C.).—
5 P.M.: Mr. Wells and Mr. Maclehose: Classes of Instruction in
the Use of the Ophthalmoscope, with Demonstrations of Cases.
DNESDAY (24th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. Diseases of Children. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. 5 P.M.: Lecture:—Dr. Beddard: Practical Medicine.
EDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. J. Berry: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. G. H. Savage: The Insanities of Visceral Diseases.
ONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. Wells: Medicine. 3.15 P.M.: Mr. M. Robson: Surgery. 4 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.
ENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M.: Demonstration:—Dr. W. Wingrave: Clinical Pathology.
HURSDAY (25th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Diseases of the Eye. 5 P.M.: Lecture:—Mr. Baldwin: Practical Surgery.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. C. O. Hawthorne: The Field of Vision in Health and Disease.
LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.
CHARING CROSS HOSPITAL.—4 P.M.: Dr. Hunter: Demonstration (Medical). (Post-Graduate Course.)
CENTRAL LONDON OPHTHALMIC HOSPITAL (Gray's Inn-road, W.C.).—8 P.M.: Lecture-Demonstration:—Dr. C. O. Hawthorne: Medical Ophthalmology.
T. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M.: Chesterfield Lecture:—Dr. M. Dockrell: The Treatment of Eczema in all its Forms.
HOSPITAL FOR SICK CHILDREN (Gt. Ormond street, W.C.).—4 P.M. Lecture:—Dr. Batten: Infantile Diarrhœa, with Especial Reference to its Treatment by Lactated Milk.
IDAY (26th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Diseases of the Throat, Nose, and Ear. 2.30 P.M.: X Rays. Operations. Diseases of the Skin. 5 P.M.: Lecture:—Mr. Pardoe: On the Diagnosis of Surgical Diseases of the Kidneys and Ureters.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.. Dr. J. Horne. Clinique. (Ear.)
LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. Bradford: Medicine. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.
NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Sir Victor Horsley: Surgery of the Nervous System.
ATURDAY (27th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations.
LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

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IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 18th, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb	Dry Bulb.	Remarks.
Oct. 12	29·76	S.W.	...	104	65	54	53	56	Fine
" 13	29·57	N.	0·10	91	56	51	50	51	Cloudy
" 14	29·88	N.	...	90	51	49	47	49	Fine
" 15	29·83	WSW	...	73	60	40	49	50	Cloudy
" 16	29·72	WSW	...	89	62	60	52	54	Cloudy
" 17	29·79	S.W.	...	106	63	53	56	58	Cloudy
" 18	29·79	S.W.	0·07	90	63	55	55	58	Cloudy

During the week marked copies of the following newspapers have been received:—*Chicago Eagle, Western Morning News, Yorkshire Post, Cork Constitution, Standard, Daily Chronicle, Morning Leader, Daily News, Daily Telegraph, Birkenhead Advertiser, Manchester City News, Kettering Leader, Derbyshire Courier, Westminster Gazette, Wimbledon Boro' News, &c.*

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The Harveian Oration

ON

THE GROWTH OF TRUTH, AS ILLUSTRATED IN THE DISCOVERY OF THE CIRCULATION OF THE BLOOD.

Delivered before the Royal College of Physicians of London on Oct. 18th, 1906,

BY WILLIAM OSLER, M.D. OXON., F.R.C.P. LOND., F.R.S.,

REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF OXFORD.

MR. PRESIDENT AND FELLOWS,—Only those of us who have had the good fortune to hold the distinguished position which by your kind grace, Sir, I hold to-day, only those of us who have delivered the Harveian Oration, can appreciate the extraordinary difficulties besetting the subject, every aspect of which has been considered, very often, too, by men who have brought to the task a combination of learning and literary skill at once the envy and the despair of their successors. But I take it, Sir, that in this Ambarvalia or commemorative festival for blessing the fruits of our great men, ordained definitely as such by him whose memory is chiefly in our minds to-day, our presence here in due order and array confers distinction upon an occasion of which the oration is but an incident. But honour worthy of such a theme should be associated with full knowledge of the conditions under which these great men lived and moved; and here comes in the real difficulty, because it is rarely possible to bring the fruits of independent critical investigation into their lives and works. Particularly hard is it for those of us who have had to live the life of the arena: our best efforts bear the stamp of the student, not of the scholar. In my own case, a deep reverence for the mighty minds of old, and a keen appreciation of the importance to our profession of a study of history, may be put in the scales against defects as to the appreciation of which I have still remaining sufficient self-detachment. The lesson of the day is the lesson of their lives. But because of the ever-increasing mental strain in this age of hurry, few of us have the leisure, fewer still, I fear, the inclination, to read it thoroughly. Only with a knowledge of the persistency with which they waged the battle for truth and the greatness of their victory, does the memory of the illustrious dead become duly precious to us. History is simply the biography of the mind of man; and our interest in history and its educational value to us is directly proportionate to the completeness of our study of the individuals through whom this mind has been manifested. To understand clearly our position in any science to day we must go back to its beginnings and trace its gradual development, following certain laws, difficult to interpret and often obscured in the brilliancy of achievements—laws which everywhere illustrate this biography, this human endeavour, working through the long ages; and particularly is this the case with that history of the organised experience of the race which we call science.

In the first place, like a living organism, Truth grows, and its gradual evolution may be traced from the tiny germ to the mature product. Never springing, Minerva-like, to full stature at once, Truth may suffer all the hazards incident to generation and gestation. Much of history is a record of the mishaps of truths which have struggled to the birth, only to die or else to wither in premature decay. Or the germ may be dormant for centuries, awaiting the fulness of time. Secondly, all scientific truth is conditioned by the state of knowledge at the time of its announcement. Thus, at the beginning of the seventeenth century the science of optics and mechanical appliances had not made possible (so far as the human mind was concerned) the existence of blood capillaries and blood corpuscles. Jenner could not have added to his inquiry a discourse on immunity; Sir William Perkin and the chemists made Koch possible; Pasteur gave the conditions that produced Lister; Davy and others furnished the preliminaries necessary to anæsthesia. Everywhere we find this invariable filiation one event following the other in orderly sequence—"Mind begets mind," as Harvey says; "opinion is the source of opinion. Democritus with his atoms, and Eudoxus with his chief good, which he placed in pleasure, impregnated Epicurus; the four elements of Empedocles, Aristotle; the doctrine of the ancient Thebans, Pythagoras and Plato; geometry, Euclid" ("De Generatione"). And, thirdly, to scientific truth alone may the *homo mensura* principle be applied, since of all mental treasures of the race it alone compels general acquiescence. That this general acquiescence, this aspect of certainty, is not reached *per saltum*, but is of slow, often of difficult, growth—marked by failures and frailties, but crowned at last with an acceptance accorded to no other product of mental activity—is illustrated by every important discovery from Copernicus to Darwin.

The growth of truth corresponds to the states of knowledge described by Plato in the *Theaetetus*—acquisition, latent possession, conscious possession. Scarcely a discovery can be named which does not present these phases in its evolution. Take, for example, one of the most recent. Long years of labour gave us a full knowledge of syphilis; centuries of acquisition added one fact to another, until we had a body of clinical and pathological knowledge of remarkable fulness. For the last quarter of a century we have had latent possession of the cause of the disease, as no one could doubt the legitimate inference from discoveries in other acute infections. The conscious possession has just been given to us. After scores of investigators had struggled in vain with the problem came Schaudinn with an instinct for truth, with a capacity to pass beyond the routine of his day, and with a vision for the whole where others had seen but in part. It is one of the tragedies of science that this brilliant investigator, with capabilities for work so phenomenal, should have been cut off at the very threshold of his career. The cancer problem, still in the stage of latent possession, awaits the advent of a man of the same type. In a hundred other less important problems, acquisition has by slow stages become latent possession; and there needs but the final touch—the crystal in the saturated solution—to give us conscious possession of the truth. But when these stages are ended there remains the final struggle for general acceptance. Locke's remark that "Truth scarce ever yet carried it by vote anywhere at its first appearance" is borne out by the history of all discoveries of the first rank. The times, however, are changing; and it is interesting to compare the cordial welcome of the pallid spirochæte with the chilly reception of the tubercle bacillus. Villemin had done his great work, Cohnheim and Salmonson had finally solved the problem of infectivity when Koch published his memorable studies. Others before him had seen the bacillus, but the conscious possession of the truth only came with his marvellous technique. Think of the struggle to secure acceptance! The seniors among us who lived through that instructive period remember well that only those who were awake when the dawn appeared assented at once to the brilliant demonstration. We are better prepared to day; and a great discovery like that of Schaudinn is immediately put to the test by experts in many lands and a verdict is given in a few months. We may have become more plastic and receptive, but I doubt it; even our generation—that great generation of the last quarter of the nineteenth century—had a practical demonstration of the slowness of the acceptation of an obvious truth in the long fight for the aseptic treatment of wounds. There may be present some who listened, as I did in October, 1873, to an introductory lecture at one of the largest of the metropolitan schools, the burden of which was the finality of surgery. The distinguished author and teacher, dwelling on the remarkable achievement of the past, concluded that the art had all but reached its limit, little recking that within a mile from where he spoke the truth for which he and thousands had been striving—now a conscious possession in the hands of Joseph Lister—would revolutionise it. With scores of surgeons here and there throughout the world this truth had been a latent possession. Wounds had healed *per primam* since Machaon's day; and there were men before Joseph Lister who had striven for cleanliness in surgical technique; but not until he appeared could a great truth become so manifest that it everywhere compelled acquiescence. Yet not without a battle—a long and grievous battle, as many of us well knew who had to contend in hospitals with the opposition of men who could not—not who would not—see the truth.

Sooner or later—insensibly, unconsciously—the iron yoke of conformity is upon our necks; and in our minds, as in our bodies, the force of habit becomes irresistible. From our teachers and associates, from our reading, from the social atmosphere about us we catch the beliefs of the day, and they become ingrained—part of our nature. For most of us this happens in the haphazard process we call education, and it goes on just as long as we retain any mental receptivity. It was never better expressed than in the famous lines that occurred to Henry Sidgwick in his sleep:—

> "We think so because all other people think so;
> Or because—or because—after all, we do think so;
> Or because we were told so, and think we must think so;
> Or because we once thought so, and think we still think so;
> Or because, having thought so, we think we will think so."

In departing from any settled opinion or belief, the variation, the change, the break with custom may come gradually; and the way is usually prepared; but the final break is made, as a rule, by some one individual, the masterless man of Kipling's splendid allegory, who sees with his own eyes; and with an instinct or genius for truth, escapes from the routine in which his fellows live. But he often pays dearly for his boldness. Walter Bagehot tells us that the pain of a new idea is one of the greatest pains to human nature. "It is, as people say, so upsetting; it makes you think that, after all, your favourite notions may be wrong, your firmest beliefs ill-founded; it is certain that till now there was no place allotted in your mind to the new and startling inhabitant; and now that it has conquered an entrance, you do not at once see which of your old ideas it will not turn out, with which of them it can be reconciled, and with which it is at essential enmity." It is on this account that the man who expresses a new idea is very apt to be abused and ill-treated. All this is common among common men, but there is something much worse which has been illustrated over and over again in history. How eminent soever a man may become in science, he is very apt to carry with him errors which were in vogue when he was young—errors that darken his understanding and make him incapable of accepting even the most obvious truths. It is a great consolation to know that even Harvey came within the range of this law—in the matter of the lymphatic system—it is the most human touch in his career. By no single event in the history of science is the growth of truth, through the slow stages of acquisition, the briefer period of latent possession, and the for us glorious period of conscious possession, better shown than in the discovery of the circulation of the blood. You will all agree with me that a Fellow of this College must take his courage in both hands who would, in this place and before this audience, attempt to discuss any aspect of this problem. After nearly three centuries of orations the very pictures and books in this hall might be expected to cry out upon him. But I have so taken my courage, confident that in using it to illustrate certain aspects of the growth of truth I am but obeying the command of Plato, who insists that principles such as these cannot be too often or too strongly enforced. There is a younger generation, too, the members of which are never the worse for the repetition of a good story, stale though it may be in all its aspects to their elders; and then there is that larger audience to be considered to which the season is never inappropriate to speak a word.

The sixteenth century, drawing to a close, had been a period of acquisition unequalled in history. Brooding over the face of the waters of mediævalism, the spirit of the Renaissance brought forth a science of the world and of man which practically created a new heaven and a new earth and the truths announced by Copernicus and Galileo far transcended

> "the searching schoolmen's view
> And half had staggered that stout Stagyrite."

Among other things, it had given to medicine a new spirit, a new anatomy, and a new chemistry. In the latter part of the fifteenth century Hippocrates and Galen came to their own again. A wave of enthusiasm for the fathers in medicine swept over the profession, and for at least two generations the best energies of its best minds were devoted to the study of their writings. How numerous and important is that remarkable group of men, the medical humanists of the Renaissance, we may judge by a glance at Bayle's "Biographie Médicale," in which the lives are arranged in chronological order. From Garbo of Bologna, surnamed the expositor, to Rabelais, more than 150 biographies and bibliographies are given, and at least one half of these men had either translated or edited works of the Greek physicians. Of our founder, one of the most distinguished of the group, and of his influence in reviving the study of Galen and so indirectly of his influence upon Harvey, Dr. Payne's story still lingers in our memories. Leonicenus, Linacre, Gonthier, Monti, Koch, Camerarius, Caius, Fuchs, Zerbi, Cornarius, and men of their stamp not only swept away Arabian impurities from the medicine of the day, but they revived Greek ideals and introduced scientific methods. The great practical acquisition of the century was a new anatomy. Vesalius and his followers gave for the first time an accurate account of the structure of the human body, and while thus enlarging and correcting the work of Galen, contributed to weaken the almost divine authority with which he dominated the schools. Nearly another century passed before chemistry, in the hands of Boyle and others, reached its modern phase, but the work of Paracelsus, based on that of the "pious Spagyrist," Basil Valentine, by showing its possibilities, had directed men's minds strongly to the new science. Of the three, the new spirit alone was essential, since it established the intellectual and moral freedom by which the fetters of dogma, authority, and scholasticism were for ever loosened from the minds of men.

Into this world, we may say, stepped a young Folkestone lad, when, on the last day of May, 1593, he matriculated at Cambridge. Harvey's education may be traced without difficulty, because the influences which shaped his studies were those which had for a century prevailed in the profession of this country. We do not know the reason for the selection of Caius College, which, so far as I can gather, had no special connexion with the Canterbury school. Perhaps it was chosen because of the advice of the family physician, or of a friend, or of his rector, or else his father may have known Caius, or the foundation may already have become famous as a resort for those about to "enter on the physic line." Or, quite as likely, as we so often find in our experience, some trivial incident may have turned his thoughts towards medicine. When he came up in 1593 there were those of middle age who could tell racy stories of Caius, the co-founder of the college, against whose iron rule they had rebelled. "Charged not only with a show of a perverse stomach to the professors of the Gospel, but with Atheism," the last days of Caius's noble life were embittered by strife and misunderstanding. Doubtless the generous souls among them had long since learned to realise the greatness of his character and were content to leave "the heat of his faith to God's sole judgment, and the light of his good works to men's imitation," with which words, half a century later, the inimitable Fuller concludes a short sketch of his life. I like to think that perhaps one of these very rebels, noting the studious and inquisitive nature of Harvey, had put into the lad's hand the little tractate, *De libris propriis*, from which to glean a knowledge of the life and works of their great benefactor.

The contemplation of such a career as that of Caius could not but inspire with enthusiasm any young man. No one in the profession in England had before that time reached a position which I may describe as European. An enthusiastic student and the friend of all the great scholars of the day; a learned commentator on the works of the Fathers; the first English student in clinical medicine; a successful teacher and practitioner; a keen naturalist; a liberal patron of learning and letters; a tender and sympathetic friend—Johannes Caius is one of the great figures in our history. Nor need I dwell, before this audience, on his devotion to our interests, other than to say that the memory of no Fellow on our roll should be more precious to us. Four years hence, on Oct. 6th, will occur the quatercentenary of his birth. As well in love as in gratitude, we could celebrate it in no more appropriate manner, and in none that would touch his spirit more closely, than by the issue of a fine edition of his principal works (including the MS. annals of the College). For the preparation of this there are those among us well fitted, not less by veneration for his memory than by the possession of that critical scholarship which he valued so highly.

When Harvey set out on the grand tour Italy was still the *mater gloriosa studiorum*, to which one hundred years earlier, so tradition says, Linacre on leaving had erected an altar. The glamour of the ideals of the Renaissance had faded somewhat since the days when John Free, an Oxford man, had made the ancient learning his own; and had so far bettered the instruction of his masters that he was welcomed as a teacher in Padua, Ferrara, and Florence. In a measure, too, the national glory had departed, dimmed amid the strife and warfare which had cost the old republics their independence. Many years earlier Fracastorius, one of our medical poets, had sung of her decadence:

> "To what estate, O wretched Italy,
> Has civil strife reduc'd and moulder'd Thee!
> Where now are all thy ancient glories hurl'd?
> Where is thy boasted Empire of the world?
> What nook in Thee from barbarous Rage is freed
> And has not seen thy captive children bleed?"[1]

And matters had not improved but had grown worse. In the sixteenth century Italian influence had sunk deeply into the social, professional, and commercial life of England—more deeply, indeed, than we appreciate[2]; and it was not for a generation or two later that the candlesticks were removed from the Cisalpine towns to Montpellier, Paris, and Leyden. In 1593 a well-to-do young Englishman who wished to study medicine thoroughly went to North Italy and most naturally to Padua—"fair Padua, nursery of the arts"—whose close affiliations with us may be gathered from the fact that, of universities next to Oxford and Cambridge, she has given us more presidents than any other. In the years that had passed since Vesalius had retired in disgust, the fame of its anatomical school had been well maintained by Fallopius, Columbus, and Fabricius, worthy successors of the great master. Of each may be said what Douglas says of the first named: "*In docendo maxime methodicus, in medendo felicissimus, in secando expertissimus.*" While the story of Harvey's student life can never be told as we could wish, we know enough to enable us to understand the influences which moulded his career. In Fabricius he found a man to make his life-model. To the enthusiastic teacher and investigator were added those other qualities so attractive to the youthful mind, generous sympathies and a keen sense of the wider responsibilities of his position, as shown in building, at his own expense, a new anatomical theatre for the University. Wide as was the range of his master's studies, embracing not alone anatomy but medicine and surgery, the contributions by which he is most distinguished are upon subjects in which Harvey himself subsequently made an undying reputation. The activity of his literary life did not begin until he had been teaching nearly 40 years, and it is a fact of the highest significance that, corresponding to the very period of Harvey's stay in Padua, Fabricius must have been deep in the study of embryology and of the anatomy of the vascular system. His great work on generation was the model on which Harvey based his own, in some ways, more accurate studies—studies in which, as my colleague, Professor Brooks of the Johns Hopkins University, has pointed out, he has forestalled Wolf and von Baer.

The work of Fabricius which really concerns us here is the "De Venarum Ostiolis." Others before him had seen and described the valves of the veins, Carolus, one of the great Stephani, Sylvius, and Paul Sarpi. But an abler hand in this work has dealt with the subject and has left us a monograph which for completeness and for accuracy and beauty of illustration has scarcely its equal in anatomical literature. Compare Plate VII., for example, with the illustrations of the same structures in the Bidloo or the Cowper "Anatomy," published nearly one hundred years later; and we can appreciate the advantages which Harvey must have enjoyed in working with such a master. Indeed, it is not too far-fetched to imagine him, scalpel in hand, making some of the very dissections from which these wonderful drawings were taken. But here comes in the mystery. How Fabricius, a man who did such work—how a teacher of such wide learning and such remarkable powers of observation, could have been so blinded as to overlook the truth which was tumbling out, so to speak, at his feet, is to us incomprehensible. But his eyes were sealed, and to him, as to his greater predecessors in the chair, clear vision was denied. The dead hand of the great Pergamite lay heavy on all thought, and Descartes had not yet changed the beginning of philosophy from wonder to doubt. Not without a feeling of pity do we read of the hopeless struggle of these great men to escape from slavish submission to authority. But it is not for us in these light days to gauge the depth of the sacred veneration with which they regarded the Fathers. Their mental attitude is expressed in a well-known poem of Browning's:—

> "those divine men of old time
> Have reached, thou sayest well, each at one point
> The outside verge that rounds our faculty,
> And where they reached who can do more than reach?"

Willing to correct observations or to extend anatomy by careful dissection, it was too much to expect from them either a new interpretation of the old facts or a knowledge of the new method by which those facts could be correctly interpreted. The ingenious explanation which Fabricius gave of the use of the valves of the veins—to serve as dams or checks to the flow of the blood, so that it would not irrigate too rapidly and overflow the peripheral vessels to the deprivation of the upper parts of the limbs—shows how the old physiology dominated the most distinguished teacher of the time in the most distinguished school of Europe. This may have been the very suggestion to his pupil of the more excellent way. Was it while listening to this ingenious explanation of his master that, in a moment of abstraction—dimly dreaming, perhaps, of an English home far away and long forsaken—there came to Harvey a heaven-sent moment, a sudden inspiration, a passing doubt nursed for long in silence, which ultimately grew into the great truth of 1616!

The works of Vesalius, of Fallopius, and of Fabricius effected a revolution in anatomy but there was not at the close of the sixteenth century a new physiology. Though he had lost an anatomical throne Galen ruled absolutely in all conceptions of the functions of the body, and in no department more serenely than in that relating to the heart, the blood and its movements. Upon his views I need not dwell further than to remind you that he regarded the liver as the source of the blood, of which there were two kinds, the one in the veins, the other in the arteries, both kinds in ceaseless ebb and flow, the only communication between these closed systems being through pores in the ventricular septum. He knew the lesser circulation but thought it only for the nutrition of the lungs. The heart was a lamp which is *furnished with oil by the blood and with air from the lungs.* Practically until the middle of the seventeenth century Galen's physiology ruled the schools, and yet for years the profession had been in latent possession of a knowledge of the circulation. Indeed, a good case has been made out for Hippocrates, in whose works occur some remarkably suggestive sentences.[3] In the sixteenth century the lesser circulation was described with admirable fulness by Servetus and by Columbus, and both Sarpi and Caesalpinus had Hippocratic glimmerings of the greater circulation. These men, with others doubtless, were in latent possession of the truth. But every one of them saw darkly through Galenical glasses, and theirs was the hard but the common lot never to reach such conscious possession as everywhere to make men acquiesce. One must have the disinterestedness of the dead to deal with a problem about which controversy has raged and in which national issues have been allowed to blur the brightness of an image which would be clear as day to those with eyes to see. Nor would I refer to a matter long since settled by those best competent to judge had not the well-known work of Luciani, the distinguished professor of physiology at Rome, appeared recently in German dress, edited by Professor Verworn, and spread broadcast views to which, with a chauvinism unworthy of their history, our Italian brethren still adhere. It has been well said "that he alone discovers who proves," and in the matter of the circulation of the blood this was reserved for the pupil of Fabricius. Skipping many arduous years we next meet him as Lumleian lecturer to the College.

The really notable years in the annals of medicine are not very numerous. We have a calendar filled with glorious names, but among the saints of science, if we know an era it is as much as can be expected—perhaps because such men are less identified with achievements than representative of the times in which they lived. With many of our greatest names we cannot associate any fixed dates. The Grecians who made Hippocrates possible live in memory with some theory, or a small point in anatomy, or in regard to the place of their birth; while the "floruit" cannot always be fixed with accuracy. Hippocrates himself, Erasistratus, Galen, and Araetius have no days in our calendar. We keep no festival in their honour as the churches do those of St. Jerome and St. Chrysostom. It is not until after the Renaissance that certain years (*anni mirabiles*) stand out in bold relief as connected with memorable discoveries, or with the publication of revolutionary works. Nevertheless, only a few in each century; even the sixteenth, so rich in discoveries, has not more than five or six such years, and not one of them is connected with work done in this country. As to the seventeenth century, it is hard to name four made memorable by the announcement of great discoveries or the publication of famous works; in the eighteenth century not three, while in the century just completed, though it is replete with extraordinary discoveries, one is hard pressed to name half a dozen years which flash into memory as made ever memorable by great achievements. Of the three most important, anæsthesia, sanitation, and antiseptic surgery, only of the first can the date be fixed, 1846, and that for its practical application. For the other two discoveries, who will settle upon the year in which the greatest advance was made, or one which could be selected for an anniversary in our calendar?

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[1] Syphilis. Englished by E. Tate, 1686.

[2] Italian Renaissance in England, Einstein. Macmillan. 1902.

[3] Willis's Harvey, pp. 21–22.

There is one *dies mirabilis* in the history of the College—in the history, indeed, of the medical profession of this country, and the circumstances which made it memorable are well known to us. At 10 o'clock on a bright spring morning, April 17th, 1616, an unusually large company was attracted to the new anatomical theatre of the Physicians' College, Amen-street. The second Lumleian lecture of the annual course, given that year by a new man, had drawn a larger gathering than usual, due in part to the brilliancy of the demonstration on the previous day, but also, it may be, because rumours had spread abroad about strange views to be propounded by the lecturer. I do not know if at the College the same stringent rules as to compulsory attendance prevailed as at the Barber Surgeons' Hall. Doubtless not; but the President, and Censors, and Fellows would be there in due array; and with the help of the picture of "The Anatomy Lecture by Bannister," which is in the Hunterian collection, Glasgow, and a photograph of which Dr. Payne has recently put in our library, we can bring to mind this memorable occasion. We see the "Anatomy," one of the six annually handed over to the College, on the table, the prosector standing by the skeleton near at hand, and very probably on the wall the very *Tabulæ* of dissection of the arteries, veins, and nerves that hang above us to-day. But the centre of attention is the lecturer—a small dark man, wand in hand, with black piercing eyes, a quick vivacious manner, and with an ease and grace in demonstrating which bespeaks the mastery of a subject studied for twenty years with a devotion that we can describe as Hunterian. A Fellow of nine years' standing, there was still the salt of youth in William Harvey when, not as we may suppose, without some trepidation, he faced his auditors on this second day—a not uncritical audience, including many men well versed in the knowledge of the time and many who had heard all the best lecturers of Europe.

The President, Henry Atkins, after whose name in our Register stands the mysterious word "Corb," had already had his full share of official lectures, less burdensome 300 years ago than now. Let us hope the lecture of the previous day had whetted his somewhat jaded appetite. The Censors of the year formed an interesting group: John Argent, a Cambridge man, a "great prop of the College," and often President, of whom but little seems known; Richard Palmer, also of Cambridge, and remembered now only for his connexion with Prince Henry's typhoid fever, as Dr. Norman Moore has told us; Mathew Gwinne of Oxford, first professor of physic at Gresham College, and a playwright of some note in his day; and Theodore Goulston of Merton College, one of our great benefactors and for 267 years past and gone purveyor-in-chief of reputation to the younger Fellows of the College. Mayerne would be there, not yet a Fellow, but happy in his escape from the Paris Faculty; still dusty with conflict, he would scent the battle afar in the revolutionary statements which he heard. Meverell, fresh from incorporation at Cambridge, also not yet a Fellow; Moundeford, often President, whose little book "Vir Bonus" sets forth his life. Paddy, a noteworthy benefactor, a keen student, still gratefully remembered at Oxford, would have strolled in with his old friend Gwinne; Baldwin Hamey the elder, also a benefactor, would be there, and perhaps he had brought his more interesting son, then preparing to enter Leyden, whose memory should be ever green among us. Let us hope Thomas Winston, probably an old fellow-student at Padua, and later appointed professor of physic at Gresham College, was absent, as we can then be more charitable towards the sins of omission in his work on "Anatomy" published after his death, which, so far as I can read, contrary to the statement of Munk (Roll of the College) contains no word of the new doctrine. As an old Paduan, and fresh from its anatomical school, the younger Craige would not be absent. Fludd, the Rosicrucian, of course, was present; attracted, perhaps, by rumours of anti-Galenical doctrines which had served to keep him out of the College; nor would he be likely to be absent at the festival of one whom he calls his "physicall and theosophicall patron." And certainly on such an occasion that able Aberdonian, Alexander Reid, would be there, whose *Σωματογραφία* had just appeared,[4] with an extraordinarily full account of the vascular system. Reid was a good anatomist, one of our most distinguished medico-chirurgical fellows, and a liberal benefactor. If, as has been stated, he was not a convert on account of his age, it was on account of his youth, for the Harveian doctrine, if in meagre form, is to be found in the later edition (fifth) of his "Manual." But we would miss Lodge, the poet, "cried-up to the last for physic," as he had recently started for the continent. And we may be sure that Harvey's old fellow-students at Padua—Fortescue, Fox, Willoughby, Mounsell, and Darcy—would honour their friend and colleague with their presence; and Edward Lister, also a fellow-Paduan, the first of his name in a family which has given three other members to our profession—two distinguished and one immortal. It was not a large gathering, as the Fellows, members, licentiates, and candidates numbered only about forty; but as the lecture was a great event in the community, there would be present many interested and intelligent laymen, of the type of Digby, and Ashmole, and Pepys—the "curious," as they were called, for whom throughout the seventeenth century the anatomy lecture equalled in attraction the play. Delivered in Latin, and interspersed here and there with English words and illustrations, there were probably more who saw than who comprehended, as Sir Thomas Browne indicated to his son Edward when he lectured at Chirurgeons' Hall.

It is a fortunate, and perhaps an unique, circumstance in bibliography that the manuscript of this course of lectures should have been preserved and that we should be able to follow step by step the demonstration—a long and formidable procedure, as the whole anatomy of the thoracic organs was discussed. I dare say there was a prolonged break between the morning and the afternoon lecture "for a fine dinner," as Pepys described, when, on Feb. 27th, 1663, he went with Harvey's pupil, Scarborough, to Chirurgeons' Hall and was used with "extraordinary great respect." Towards the close, after discussing, in novel and modern terms, the structure and action of the heart, Harvey summed up in a few sentences the conclusion of the matter. They stand as follows in the "Prelectiones" (published by the College in 1886):—

W. H. constat per fabricam cordis sanguinem
per pulmones in Aortam perpetuo
transferri as by two clacks of a
water bellows to rayse water
constat per ligaturam transitum sanguinis
ab arteriis ad venas
unde perpetuum sanguinis motum
in circulo fieri pulsu cordis.

Probably few in the lecture hall appreciated the full meaning of these words, which to some must have seemed a blot on the whole performance; while others, perhaps, all with the feelings of the fishes after St. Anthony's well-known sermon:

Much delighted were they,
But preferred the old way,

returned to their homes wondering what he would say on the morrow when the "divine banquet of the brain" was to be spread before them. One thing was certain—the lecture gave evidence of a skilled anatomist of remarkably wide experience and well versed in literature from Aristotle to Fabricius. While Harvey could agree with John Hunter, who states in an MS. introductory lecture in the College library—"I deliver nothing I have not seen and observed myself,"—he could not add with him, "I am not a reader of books." Nearly one hundred references to some twenty authors occur in the manuscript of the thorax, or, as he calls it, the "parlour" lecture. It is a great pity that we have no contemporary account of the impression on such men as Mayerne or Reid of the new doctrines, for which we have the author's statement that they were taught annually and elaborated. So far as I know there is no reference to show that the lectures had any immediate influence in the profession, or indeed that the subject matter ever got beyond the circle of the College. We are not without a first-hand account by the author of his reception: "These views as usual pleased some more, others less; some chid and calumniated me, and laid it to me as a crime that I had dared to depart from the precepts and opinions of all anatomists; others desired further explanation of the novelties."

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[4] Copy in Bodleian Library.

It is difficult for us to realise the mental attitude of the men who listened year by year as the turn of the "Parlour Lecture" came. Their opinions, no less firmly held than is our positive knowledge, did not get much beyond: "The great dictator Hippocrates puts us in mind of it, Galen has a thousand times inculcated the same, the prince of the Arabian tribe, Avicen, has set his seal unto it." This expresses their mental state, and such a heresy as a general circulation could scarcely be appreciated; and in a man of such good parts as Harvey would in pity be condoned, just as we overlook the mild intellectual vagaries of our friends.

Bootless to ask, impossible to answer, is the question why Harvey delayed for 12 years the publication of his views. He seems to have belonged to that interesting type of man, not uncommon in every age, who knows too much to write. It is not a little remarkable that this reticence of learning has been a strong mental feature in some of the greatest of discoverers. Perhaps it was the motive of Copernicus, who so dreaded the prejudices of mankind that for 30 years he is said to have detained in his closet the "Treatise of Revolutions." From what Harvey says, very much the same reasons restrained the publication of his work. To the lesser circulation, with the authority of Galen and Columbus to support it, men "will give their adhesion," but the general circulation "is of so novel and unheard-of character that I not only fear injury to myself from the envy of a few, but I tremble lest I have mankind at large for my enemies, so much doth wont and custom, that has become as another nature, and doctrine once sown and that hath struck deep root and rested from antiquity, influence all men." He felt, as he says to Riolan, that it was in some sort criminal to call in question doctrines that had descended through a long succession of ages and carry the authority of the ancients; but he appealed unto Nature that bowed to no antiquity and was of still higher authority than the ancients. Men have been for years in conscious possession of some of the greatest of truths before venturing to publish them. Napier spent 20 years developing the theory of logarithms, and Bacon kept the "Novum Organum" by him for 12 years, and year by year touched it up—indeed, Rowley states that he saw 12 copies. Two other famous discoveries by Englishmen have the same curious history—the two which can alone be said to be greater than the demonstration of the circulation of the blood. Zachariah Wood speaks of Harvey as the surmiser of the little world, to distinguish him from another Englishman who first went about the greater world. But a greater than both—Isaac Newton—had grasped the secret of a cosmic circulation, and brooded in silence over the motion of the spheres for more than twenty years before publishing the "Principia." Between the writing of the rough sketch in 1842 and the appearance of the "Origin of Species" 17 years elapsed; and from the date of the journal notes, 1836, in which we have the first intimation of Darwin's theory, more than twenty years. In Harvey's case this intellectual reticence, this hesitation "to quit the peaceful haven," as he says, has cost us dear. Only a happy accident gave us the "De Generatione," and the College can never be too grateful to Sir George Ent for that Christmas visit, 1650, so graphically described, and to which we owe one of the masterpieces of English medicine. How many seventeenth-century treatises we could have spared to have had the "Practice of Medicine conformable to his Thesis of the Circulation of the Blood"! How instructive his prospective "Medical Observations" would have been we can gather from the remarkable series of cases scattered through the manuscript notes and his published writings. His "treatise apart" on "Eventilation" or "Respiration"; the "Medical Anatomy" or "Anatomy in its Application to Medicine," as he says, "I also intend putting to press"; the work "from observations in my possession" on "Organs of Motion in Animals"—all of these, with the work on "Generation in Insects," and others mentioned by Dr. Merrett,[4] the then library keeper, 1667, were probably dispersed when those sons of Belial ransacked his chambers at Whitehall.

"Still the die is cast, and my trust is in the love of truth and the candour that inheres in cultivated minds." With these words he consoles himself, knowing from experience that the publication of even a portion of the work, as in one place he calls the little book, would raise a tempest. Zachariah Wood in the preface to the English edition, 1673, expresses what many of his contemporaries must have felt: "Truly a bold man indeed, O disturber of the quiet of physicians! O seditious citizen of the Physical Commonwealth! who first of all durst oppose an opinion conformed for so many ages by the consent of all." De Bach of Amsterdam describes the dilemma in which teachers found themselves: "This new thing I did examine, which the first entrance did seem very easily to be refuted, but being weighed in a just balance, and having added to reason my own ey-sight it was found inexpugnable, nay (the very prick of truth enforcing) to be embraced with both arms. What shall I doe? Must Hippocrates be left, Galen slighted? No, if we follow the truth senced with reason and our sense, we are still Hippocrates his, we are still Galens" (English edition, 1653).

The history of the next 30 years illustrates the truth of Locke's dictum in the struggle for acceptance. Not the least interesting part of the story, it should be told at greater length and with more detail than it has yet received—more than I am able to give it. That the repeated demonstrations, aided by the strong personal influence of the man, brought the College, as a body, to the new views it witnessed rather by the esteem and affection the Fellows bore to him than by any direct evidence. The appearance of the book in 1628 made no great stir; it was not a literary sensation—a not uncommon fate of epoch-making works, the authors of which are too far ahead of their contemporaries to be appreciated. The same event happened to Newton's "Principia"; as Sir William Petty remarks, "I have not met with one man that put an extraordinary value on the book."

Among Englishmen, Primrose alone, brought up among the strictest sect of the Galenists, and at the time not a Fellow, wrote a criticism from the old standpoint (1632), and remained unconvinced 12 years later, as his controversy with Regius shows. And only one special treatise in favour of the circulation was written in England—that of Sir George Ent, a pupil and friend of Harvey, who wrote (1641) specially against Parisanus, a Venetian, a foeman quite unworthy of his quill. In the universities the new doctrine rapidly gained acceptance—in Cambridge through the influence of Glisson, while in part to Harvey's work and influence may be attributed that only too brief but golden renaissance of science at Oxford. A little incident mentioned in the autobiographical notes of the celebrated Wallis shows how the subject was taken up quite early in the universities: "And I took into it the speculative part of physick and anatomy as parts of natural philosophy and, as Dr. Glisson has since told me, I was the first of his sons who (in a public disputation) maintained the circulation of the blood, which was then a new doctrine, though I had no design of practising physick." This was in the early "thirties." But the older views were very hard to displace and as late as 1651 we find such intelligent members of the "invisible college" as Boyle and Petty carrying out experiments together in Ireland to satisfy themselves as to the truth of the circulation of the blood.

It took much longer for the new views to reach the textbooks of the day. From no work of the period does one get a better idea of the current anatomical and physiological teaching in London than from Crooke's "Body of Man" (1615 and 1631). Collected out of Vesalius, Plantinus, Platerius, Laurentius, Valverda, Bauchinus, and others, it is an epitome of their opinions, with the comments of the professor who read the anatomy lecture to the Company of the Barber-Surgeons. In the preface to the first edition he speaks of the contentment and profit he had received from Dr. Davies's Lumleian Lectures at the College of Physicians. There is no indication in the second edition that he had benefited by the instruction of Dr. Davies's successor. Galen is followed implicitly, with here and there minor deviations. The views of Columbus on the lesser circulation are mentioned only to be dismissed as superfluous and erroneous. The Gresham Professor of the day, Dr. Winston, makes no mention of the new doctrine in his "Anatomy Lectures" which were published after his death, 1651, and are of special interest as showing that at so late a date a work could be issued with the Galenical physiology unchanged. In Alexander Reid's "Manual," the popular text-book of the day, the Harveian views are given in part in the fifth edition, in which, as he says in the preface, "the book of the breast" is altogether new—an item of no little interest, since he was a man advanced in years, and, as he says, "the hourglass hasteneth, and but a few sands remain unrun." Highmore, the distinguished Dorsetshire anatomist, and a pupil of Harvey, in his well-known "Anatomy" published in 1651, gives the ablest exposition of his master's views that had appeared in any systematic work of the period, and he urges his readers to study the "De Motu Cordis" as "fontum ipsum" from which to get clearer knowledge. He quotes an appropriate motto for the period—*laudamus veteres: sed nostris utimur annis*. But even so late as 1671 the old views were maintained in the English edition of Riolan. And yet the knowledge of Harvey's views must have spread broadcast, not only in the profession, but in that large outside circle of distinguished men who felt the new spirit of science working in their veins. From converse or from the Lumleian lectures, which no doubt he often attended, Kenelm Digby must have had the information about Harvey's views on generation, as at the date of the issue of his "Two Treatises," 1644, they had not been published anywhere. While he knew well the motion of the blood as expounded by Harvey, and having, in making his great antidote, studied the action of the viper's heart, Digby, like Descartes, could not emancipate himself from the old views, as shown in the following passage: "But if you desire to follow the blood all along every steppe, in its progresse from the hart round about the body, till it returne back againe to its center, Doctor Harvey, who most acutely teacheth this doctrine, must be your guide. He will show you how it issueth from the hart by the arteries; from whence it goeth on warming the flesh, untill it arrive to some of the extremities of the body: and by then it is grown so coole (by long absence from the fountaine of its heate; and by evaporating its owne stocke of spirits, without any new supply) that it hath need of being warmed anew; it findeth itself returned backe againe to the hart, and is there heated againe, which returne is made by the veines, as its going forwardes, is performed only by the arteries." Sir William Temple well expresses the attitude of mind of the intellectual Philistine of the time, who looked for immediate results. Speaking of the work of Harvey and of Copernicus he says: "Whether either of these be modern discoveries or derived from old foundations is disputed; nay, it is so too, whether they are true or no; for though reason may seem to favour them more than the contrary opinions, yet sense can hardly allow them, and to satisfy mankind both these must concur. But if they are true, yet these two great discoveries have made no change in the conclusions of Astronomy nor in the practice of Physic, and so have been but little use to the world, though, perhaps, of much honour to the authors."[6] It is pleasant to notice that our old friend, Sir Thomas Browne, with his love of paradox, declared that he preferred the circulation of the blood to the discovery of America.

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[4] Munk: Roll of the College, vol. i., p. 132.

Of the reception of Harvey's views in Holland and Germany there is nothing to add to the admirable account given by Willis. The early and strenuous advocacy of Descartes must have influenced the Dutch physicians; but in this, as in so many other things, the infection of his early years proved too powerful, and he could not get rid of the "ancient spirits." Of the discovery of the circulation he says[7] it is "la plus belle et la plus utile que l'on pût faire en médecine." "Tout à faite contraire au sein touchant la mouvement du coeur," which he held to be due to an ebullition of the spirits—a sort of ferment (*espèce de levain*) existing in it. Much more actively discussed in Holland than elsewhere, the writings of Drake, Walaeus, Regius, Plempius, Sylvius, de Bach, Conringius, T. Bartholini (the Dane), and others threshed out the whole question very thoroughly, and their views, with those of Hoffman, Slegel, and others are referred to by Willis and given in greater detail by Riolan.[8] In the oft-quoted statement that Harvey, "conquering envy, hath established a new doctrine in his lifetime," Hobbes was right so far as England and Holland are concerned. But it was far otherwise in France, where it met with a bitter and a protracted hostility. The Medical School of the University of Paris, at the time one of the best organised and most important in Europe, declined to accept the circulation of the blood during his lifetime and for some years after his death. The history of the period is pictured for us in vivid colours in that *journal intime* which Gui Patin kept up with his friends, Spohn and Falkconet of Lyons and the Belins (*père et fils*). With all his faults, particularly his scandalous lack of charity, one cannot but feel the keenest sympathy with this dear old man. Devoted to his saints, Hippocrates and Galen, Fernel, and Duret, and to his teachers, Piêtre and Riolan, to him the circulation of the blood was never more than an ingenious paradox. To such a lover of books and of good literature everything can be forgiven, and in his letters we follow with deepest interest his vigorous campaign against his dear enemies, the *Cuisiniers Arabesques*, who had enslaved people and physicians alike, the hæmophobies, the chemists, the astrologers, and the *stibiate*, as he calls it, the *Stygiate* group. To him the Koran was less dangerous than the works of Paracelsus, the appearance of the new Geneva edition of which he deeply deplores. Reverence for Galen and friendship with Riolan, rather than any deep interest in the question, inspired his opposition. To him the new doctrine was ridiculous and it was he who called the partisans of it *circulateurs* in allusion to the Latin word, circulator, meaning charlatan. In 1652 he writes to Spohn that the question is still open whether the blood passes through the septum of the heart or through the lungs. In 1659 he promises to send him a work of Vinean against the circulation.[9] More extraordinary still is the fact that as late as 1670, 12 years after Harvey's death, the thesis of one Cordelle, a bachelor of medicine, publicly discussed the circulation of the blood, and Gui Patin, who presided, decided in the negative. The fiction of an ingenious narrator, *le doux songe* of Harvey, are the terms in which he speaks of it. The whole passage is worth quoting as possibly the last public denouncement of what seemed a rank heresy to the old Galenists: "Supposer que le sang se meut toujours circulairement, que de la veine cava ascendante il tombe dans l'oreillette droite du cœur, que de là il aille traverser toute la substance du poumon pour retomber de là dans l'oreillette gauche en passant par la veine pulmonaire, et qu'enfin de là il soit projeté dans l'aorte et toutes les artères qui le feront passer dans les veines, et dans le cœur, lui faisant par ce moyen suivre un circuit, voilà le doux songe de Harvey, la fiction d'un narrateur ingénieux, mais nullement prouvée par l'évidence. La circulation du sang, son transport circulaire par les vaisseaux, c'est l'enfantement d'un esprit oisif, un vrai nuage qu'embrassent les Ixions pour procréer les Centaurs et les monstres."[10] As I said, we can forgive a great deal to the man who has left us such a picture of seventeenth-century life, drawn, all unconsciously, with a master hand, and through the mists of prejudice and hate we can recognise the good sense which had the courage to protest against the *forfanterie Arabesque et bézoardesque* in much of the therapeutics of the day.

Though a professor in the Paris Faculty and a brilliant lecturer, Patin at that time did not occupy such a distinguished position, nor was his opposition of such importance, as that of Riolan—"John Riolan, the Son, the most experienced Physician in the Universitie of Paris, the Prince of Dissection of Bodies, and the King's professor, and Dean of Anatomie and of the knowledge of simples, chief physician to the queen-mother of Louis XIII."—as he is quaintly, but very truly, described by Harvey.[11] Brought up by his father to regard Hippocrates and Galen as the sources of all wisdom, the intensity of his zeal increased with his years until at last "to see the physic of Galen kept in good repair" became the passion of his life. The deep pity of it all is that such mental blindness should have stricken a really great man, for he was a brilliant anatomist and teacher, the author of the best anatomical text-book of its day, a man of affairs, profoundly versed in literature, a successful practitioner, and for years the head of the profession in France. The opposition of such a man was serious, and naturally had a profound influence. Not content with the comparatively brief statement in "Encheiridion," 1648, Riolan published in England the following year his "Opuscula Anatomica nova," one very large section of which is taken up with the problem of circulation. It was this probably as much as a present of the Encheiridion that induced Harvey to break his long silence and to reply. After a report of a discussion upon a thesis in

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[6] Works, 1814, vol. iii., p. 293.

[7] Cousin's edition, vol. ix., p. 159.

[8] Opuscula Anatomica, London, 1649.

[9] Lettres, vol. i., p. 324, edition 1694.

[10] Gui Patin, par Felix Larrieu.

[11] Title-page of English edition of the Letter, 16.

1645 and a statement of objections, a most interesting discussion follows of the literature, in which the opinions of various writers are examined, particularly those of Cartesius, Conringius, Wallaeus, and Plempius.

It is quite possible that the second "Disquisition" of Harvey to Riolan, published with the first in duodecimo form at Cambridge in 1649, was brought out by Riolan's latter publication, though it is not directly referred to. Little did Harvey appreciate that his old friend was both blind and deaf—incapable of seeing obvious facts. It was not a question of being conversant with anatomy or of having had experience, on both of which points Harvey dwells at length. Riolan knew his anatomy as well as, or better than, any man of his generation. It was not that he would not—but that he could not—see the truth which was staring him in the face. As Reynaud[12] mentions, an occasional thesis (Fagon, 1663; Mattol, 1665) supporting the circulation did slip through the Faculty: but the official recognition in France did not come until 1673, when Louis XIV. founded a special chair of anatomy at the Jardin des Plantes for the propagation of the new discoveries. The satire of Molière and the "Arrêt Burlesque" of Boileau completed the discomfiture of the "anticirculateurs," but it had taken nearly half a century to overcome the opposition of those who saw in the new doctrines the complete destruction of the ancient system of medicine.

Even when full grown in the conscious stage truth may remain sterile without influence or progress upon any aspects of human activity. One of the most remarkable of phenomena in mental biography is the failure of the Greeks to succeed after giving the world such a glorious start. They had every essential for permanent success: scientific imagination, keen powers of observation; and if in the days of Hippocrates the mathematical method of interrogating Nature prevailed rather than the experimental, Galen carried the latter to a degree of perfection never again reached until the time of Harvey. Only when placed in its true position in relation to Greek religion and philosophy, as has been done so skilfully by Gomperz,[13] do we realise the immensity of the debt we owe to those "our young light-hearted masters." And Gomperz makes clear the nature of the debt of Greek thought to the practical sense of the physicians. But alas! upon the fires they kindled were poured the dust and ashes of contending philosophies, and neither the men of the Alexandrian school nor the brilliant labours of the most encyclopædic mind that has ever been given to medicine sufficed to replenish them. Fortunately, here and there amid the embers of the Middle Ages glowed the coals from which we have lighted the fires of modern progress. The special distinction which divides modern from ancient science is its fruitful application to human needs—not that this was unknown to the Greeks; but the practical recognition of the laws of life and matter has in the past century remade the world. In making knowledge effective we have succeeded where our masters failed. But this last and final stage, always of slow and painful consummation, is evolved directly from truths which cannot be translated into terms intelligible to ordinary minds. Newton's great work influenced neither the morals nor the manners of his age, nor was there any immediate tangible benefit that could be explained to the edification or appreciation of the "ordinary man" of his day, yet it set forward at a bound the human mind, as did such truths as were proclaimed by Copernicus, by Kepler, by Darwin, and others. In a less conspicuous manner Harvey's triumph was on the same high plane. There was nothing in it which could be converted immediately into practical benefit, nothing that even the Sydenhams of his day could take hold of and use. Not so much really in the demonstration of the fact of the circulation as in the demonstration of the method—the *Inventum mirabile* sought for by Descartes, the *Novum Organum* of Bacon—lies the true merit of Harvey's work. While Bacon was thinking Harvey was acting, and before Descartes had left his happy school at Le Flèche Harvey was using *la nouvelle méthode*; and it is in this way that the "De Motu Cordis" marks the break of the modern spirit with the old traditions. No longer were men to rest content with careful observation and with accurate description; no longer were men to be content with finely-spun theories and dreams which "serve as a common subterfuge of ignorance"; but here for the first time a great physiological problem was approached from the experimental side by a man with a modern scientific mind, who could weigh evidence and not go beyond it and who had the sense to let the conclusions emerge naturally but firmly from the observations. To the age of the hearer, in which men had heard and heard only, had succeeded the age of the eye, in which men had seen and had been content only to see. But at last came the age of the hand—the thinking, devising, planning hand; the hand as an instrument of the mind, now re-introduced into the world in a modest little monograph of 72 pages, from which we may date the beginning of experimental medicine.

No great discovery in science is ever without a corresponding influence on medical thought, not always evident at first, and apt to be characterised by the usual vagaries associated with human effort. Very marked in each generation has been the change wrought in the conceptions of disease and in its treatment by epoch-making discoveries as to the functions of the body. We ourselves are deeply involved to-day in toxins and antitoxins, in opsonins, tulases, and extracts as a direct result of the researches in bacteriology and in internal secretion. There were sanguine souls in Harvey's day who lamented with Floyer that the discovery had not brought great and general innovations into the whole practice of physic. But had the old Lichfield physician lived he would have seen the rise of a school based directly upon the studies of Harvey and Sanctorius, the brilliant reasonings of Descartes, and the works of Bellini and Borelli. The mechanical school rose in its pride on solid foundations which appealed to practical men with singular force. Very soon that "beatific epitome of creation," man, was "marked out like a spot of earth or a piece of timber with rules and compasses," and the medical terminology of the day became unintelligible to the older practitioners who could make nothing of the "wheels and pulleys, wedges, levers, screws, cords, canals and cisterns, sieves and strainers," and they cracked their jokes on "angles, cylinders, celerity, percussion, resistance, and such-like terms, which they said had no more to do with physic on the human body than a carpenter has in making Venice treacle or curing a fever." Once accepted, men had a feeling that so important a discovery must change all the usual conceptions of disease. As has been said before, Harvey tells that he had in preparation a "Practice of Medicine conformable to his Thesis of the Circulation of the Blood," and it soon became customary to put in the title-pages of works some reference to the new doctrine. Even Riolan's "Opuscula Anatomica" makes an allusion to it. Walaeus, a keen defender of Harvey, published in 1660 a little compendium of practice *ad circulationem sanguinis adornata*, but there is nothing in it to suggest any radical change in treatment. Rolfinck's "Dissertationes Anatomicæ," 1650, embracing the older and more recent views in medicine, are *ad circulationem accommodatæ*, and even as late as 1690 the well-known anatomy of Dionis was *suivant la circulation*. With the loss of his work on the "Practice of Medicine" it is impossible to say whether Harvey's own practice was modified in any way. To part from the spirits and humours must have left his attitude of mind very sceptical, and that his "therapeutic way" was not admired (as Aubrey tells us) speaks for a change which may have set many against him. More important than any influence upon treatment was the irresistible change in the conceptions of disease caused by destruction of the doctrine of spirits and humours, which had prevailed from the days of Hippocrates. While Harvey, as he says, had in places to use the language of physiology, that is, the language of the day, he makes it very clear, particularly in the second letter to Riolan, that he will have none of the old doctrine to which the "De Motu Cordis" dealt the death blow.

But the moving hand reminds your orator, Mr. President, of a bounden duty laid upon him by our great Dictator to commemorate on this occasion by name all of our benefactors; to urge others to follow their example; to exhort the Fellows and Members to study out the secrets of Nature by way of experiment; and, lastly, for the honour of the profession, to continue in love and affection among ourselves. No greater tribute to Harvey exists than in these simple sentences in which he established this lectureship, breathing as they do the very spirit of the man, and revealing to us his heart of hearts. Doubtless, no one more than he rejoices that our benefactors have now become so numerous as to nullify the first injunction; and the best one can do is to give a general expression of our thanks and to mention here and there, as I have done, the more notable among them. But this is not enough. While we are praising famous men, honoured in their day and still the glory of this College, the touching words of the son of Sirach reminds us: "Some there be that have no memory, who are perished as though they had never been, and are become as though they had never been born." Such renown as they had, time has blotted out; and on them the iniquity of oblivion has blindly scattered her poppy. A few are embalmed in the biographical dictionaries; a few are dragged to light every year at Sotheby's, or the memory is stirred to reminiscence as one takes down an old volume from our shelves. But for the immense majority on the long roll of our Fellows—names! names! names!—nothing more; a catalogue as dry and meaningless as that of the ships, or as the genealogy of David in the Book of Chronicles. Even the dignity of the Presidential chair does not suffice to float a man down the few centuries that have passed since the foundation of the College. Who was Richard Forster? Who was Henry Atkins? Perhaps two or three among us could tell at once. And yet by these men the continuity and organic life of the College has been carried on, and in maintaining its honour, and furthering its welfare, each one in his day was a benefactor, whose memory it is our duty, as well as our pleasure, to recall. Much of the nobility of the profession depends upon this great cloud of witnesses, who pass into the silent land—pass, and leave no sign, becoming as though they had never been born. And it was the pathos of this fate, not less pathetic because common to all but a few, that wrung from the poet that sadly true comparison of the race of man to the race of leaves!

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[12] Les Médecins au Temps de Molière, 1863.

[13] The three volumes of his Greek Thinkers, *now in English dress*, should be studied by every young man who wishes to get at the foundations of philosophy. The picturesque style of Professor Gomperz and his strong sympathy with science add greatly to the interest of the work.

The story of Harvey's life, and a knowledge of the method of his work, should be the best stimulus to the Fellows and Members to carry out the second and third of his commands; and the final one, to continue in love and affection among ourselves, should not be difficult to realise. Sorely tried as he must have been, and naturally testy, only once in his writings, so far as I have read, does the old Adam break out. With his temperament, and with such provocation, this is an unexampled record, and one can appreciate how much was resisted in those days when tongue and pen were free. Over and over again he must have restrained himself as he did in the controversy with Riolan, of whom, for the sake of old friendship, he could not find it in his heart to say anything severe. To-day his commands are easier to follow, when the deepened courtesies of life have made us all more tolerant of those small weaknesses, inherent in our nature, which give diversity to character without necessarily marring it. To no man does the right spirit in these matters come by nature, and I would urge upon our younger Fellows and Members, weighing well these winged words, to emulate our great exemplar, whose work shed such lustre upon British medicine, and whom we honour in this College not less for the scientific method which he inculcated than for the admirable virtues of his character.

A NEW HOSPITAL AT NANTWICH.—A new hospital for infectious cases was opened at Nantwich on Oct. 12th. It has been built by the Nantwich urban and rural councils jointly at a cost of £8500. It supplies a want which has been long and earnestly expressed by the Cheshire county council and its medical officer, Mr. F. Vacher. There are wards for diphtheria, typhoid fever, and scarlet fever, with 20 beds in all, and there is a nurses' home.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.—The winter session of lectures and demonstrations will commence on Oct. 31st when Mr. Stanley Boyd will lecture on Foreign Bodies in the Bronchi and will give a demonstration of Kilian's Bronchoscope. On Nov. 7th Dr. S. H. Habershon will lecture on Selected Cases from the Wards. On Nov. 14th Dr. W. C. Bosanquet will deal with the Serum Treatment of Pulmonary Tuberculosis. On Nov. 21st Dr. J. J. Perkins will give a demonstration of Selected Cases. On Nov. 28th Dr. H. Batty Shaw will deal with the Sphygmomanometer and its practical use. On Dec. 5th Dr. F. J. Wethered will give a demonstration of Cases in the Wards. The lectures will commence at 4 P.M. on each of the dates.

An Address ON WORDS AND THINGS.

Delivered before the Students' Physical Society of Guy's Hospital at the Opening of the Winter Session, 1906,

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GENTLEMEN,—When your courteous secretaries did me the honour of inviting me to address your society in its opening session of this year I did not realise that my acceptance was committing me to an occasion so important as this. But they kindly assure me still that a momentous oration is not required of me, not even a careful discourse on some chapter of medicine, but rather a few words of general conversation—gossip may I call it?—suitable to a students' discussion society. Indeed, a bolder undertaking at this time would have been impossible for me; and, after all allowances, I am not without apprehension that my salute to you will be of a very light artillery.

Yet light as my address was perhaps to be, it must not be unfitting to its intention; and, not without reminiscences of other public debates, it came to my mind that I might endeavour to promote the economy of your own by an attempt to determine the relations of words to things; for we are all agreed that it is to things that we desire to approach, and not to occupy ourselves in unsubstantial forms or shadows of things.

In brief discourse—for an address may be brief and yet tedious—I desire to avoid those regions of metaphysical thought by which we are landed in remote and irreducible antinomies. It is not inconsistent, I hope, with a proper mistrust of common-sense to assume for current purposes an objective world and a subjective; that we are we and that things are things outside us. In this necessary assumption our concepts are models of the external world, and are useful in so far as they coincide with what we must venture to accept as "reality." Curiously enough, the human mind is not as the "mind" of animals seems to be, a mere print off of the outer world; it has an amazing liberty, or license, of speculation, largely independent of phenomena, a faculty at any rate of conceiving the world much other than it is; in part a dreaming faculty, in part an abstracting faculty; or in other words a compact of imagination and intellect. To make for himself an idea of the big world as it is must be the work of ages, meanwhile man has for working purposes this faculty of making little provisional images of it, on the lines of which he may make corresponding periodical progresses. But, as by enlargement of needs and experience mankind is prepared for larger and larger conceptions, the surviving images become idols, and these, like other idols, have from time to time to be smashed. Some men foresee more clearly the imperative iconoclasms; others see more clearly the converse side of progress—namely, that tradition, sincerely used and understood, is better than no provisional scheme of life at all. In the less mature periods of culture man is so proud of his mind, and of the little worlds it fashions, that he attaches himself most tenaciously to one or other of these images rather than to the objective world; and furiously resents any scrapping of his subjective worlds, however inadequately they may have come to represent the stage of contemporary experience. It is a hard lesson that from generation to generation man must be incessantly rebuilding himself more and more after the image of God. By things, then, I mean what we suppose to be an external world, after the manner of which we are or ought to be continually remodelling our ideas; by words, on the other hand, I mean signs, arbitrary and very variable signs, by which we endeavour to indicate these ideas and to converse with them. In a full view of symbolism these signs would appear in more than one kind; for instance, they must include drama, painting, and music; but at present we will confine ourselves to those signs only which we call language—to literary signs, and of these chiefly, of course, to scientific prose.

In contemplating the nature of linguistic signs a picturesque modern writer has figured man as standing on some point of vantage from which the vast and swift streams of the universe are seen—if there be a brother Silurian present he will recall the lines:—

> "Like a vast shadow moved in which the world
> And all her train were hurled"

—and the watcher, while the stream whirls past, endeavours to throw labels upon its infinite and fleeting parts; some of the labels stick rightly, others stick in wrong places; others, again, float along space as if attached to something, yet *signify nothing*. It is because many of our labels, floating as showily as the rest, ride thus upon nothing, and thus deceive us, that I am moved to our present conversation.

Not unmindful, as I have remarked, of debate in other places. Permit me to quote the following paragraph from "Coningsby": "There was indeed a considerable shouting about what they called Conservative principles; but the awkward question naturally arose—what will you conserve? the prerogatives of the Crown, provided they are not exercised; the independence of the House of Lords, provided it is not asserted; the ecclesiastical estate, provided it is regulated by a commission of laymen; everything, in short, that is established so long as it is a phrase and not a fact" So deftly did this master of persiflage lay bare the habit of men to feed themselves with words instead of with things, diverting themselves, as an old writer has put it, "by going about to catch the wind in a net."

But politics, you may say, is a game; and to use words as chaff for the passerine voter is part of the game. Well, let us turn to letters; there is in our day a new actor—the literary man, as distinguished from the historian, the philosopher, the naturalist, the grammarian, the romancer, the poet, and so forth, whose profession is not with making things but with dressing them. Not himself a profound inquirer into things, his occupation is to deck them with gauds, I had almost said to titivate them; fetching words from far to decorate what he has not created. Ornament for ornament's sake. Or, to advance these ladies' maids of literature from the green-room to the stage, we may compare their manipulation of words to a show of marionettes and their "criticisms of life" to a charade. It was no bitter cynic who said that "persons who cannot afford the time to experiment write books on the subject." These embellishers of other people's creations or researches, this smart redressing of things in precious words to catch the interest of the readers of magazines, may be conditions of democracy; yet, if we may hope that it does more harm to the journalist than to the public, it must do harm to both in divorcing manner from matter, in regarding "style" not as in the substance of the thing itself, but as an applied decoration; the thing itself being, in two of its aspects, the personal experience and this experience modified by the author's temperament. This last quality it is which is properly Style. When the style becomes but a frippery, clothing somebody else's stuff, affectations, insincerities, and false notions breed and abound. The humblest reporting is better than exuberant orchestration of other men's themes.

To turn to another side of the matter; those of us who are trained in science, reverent as we are to the memory of Aristotle, cannot help seeing that, after a widely different fashion indeed, he occupies himself too much with words. This defect in him it was which endeared him to the spinners of verbal webs in the scholastic period of modern Europe. Like them their oracle too often when seeking for causes sought them among words. Aristotle would not be the august man he is had he not laid a masterly hand also on things, especially on zoological things; but in many spheres he failed to perceive how artificial are the logical bridges by which too often he carried himself over anything but solid ground. We are told to remember in excuse that Aristotle lay under the disadvantage of knowing but one language; that had he enjoyed the advantage of a classical education, had he been educated in the comparison of words, he would have become so far detached from them as to have discovered that words are but labels, that labels are very liable to get shifted, and in no case make the museums they interpret. That this defect, in the work of the greatest mind perhaps that the world has seen, was due to his confinement within the boundaries of one tongue I hesitate to admit. Many great men, comparable perhaps with Aristotle in native intellect, although like him confined to one language, have compassed ends if less vast yet more enduring. Such men have lived, it is true, in polyglot times, but personally not a few of them had enjoyed either no linguistic culture or but a nominal degree of it. Nor in our own times, indeed, do I observe that those whose linguistic culture has been the most liberal have distinguished themselves chiefly by an emancipation from words and a devotion to things. I can conceive, indeed, that a contrary thesis might be maintained.

Now to dwell upon things rather than on words is the method of observation, which in its fulness contains the experimental method; and although it would not be fair to say that the Greeks never attained the use of this method, its practice by Aristotle, by his pupil *Theophrastus* the botanist, by Archimedes, or Hipparchus, never attained anything like the maturity to govern their conceptions. In so brief a bloom of culture such a consummation would scarcely be conceivable. Both before and after the Socratic period the pursuit of knowledge was mainly not by this method but by the method of public discussion. The perversions latent in this method we can see better than greater men than ourselves could perceive them at the time, and the method of public discussion and pursuit of truth by verbal controversy became almost more rampant and more perverted in the polyglot medieval universities than among the monoglot Greeks, and with less excuse. But this subject I shall return to presently, in some reflections upon words as logic.

An insight into what South called "the fatal imposture and force of words' may be received from that profound reverence for names which we observe in children—including grown-up children, in contemporary savages, and in folklore. An inquiring child is dissatisfied until *he is told the name* of a thing; savage man still believes that to get at the name of a person is to gain a power over him. To know the name was to have the kind of power which was obtained by the effigy, the power vicariously to injure the person. Thus persons or gods took false names, in order that the real name might be sheltered from malevolence, or that the worshipper might be spared the fulmination of the name. In Jacob's wrestlings at Penuel we note this importunity for the name. The whole Aryan family, *Professor Rhys tells us*, believed at one time not only that his name was a part of a man, but also that it was the part of him which we call soul—the breath of life. The Irish, at a far later date, treated the name as a substance. I need not hark back to my quotation from Disraeli to remind you that even to-day almost any reform is possible so long as names are not touched; so persistent is our habit of regarding the name as the vital part of identity. And unfortunately we go on building with names when the things are altered or wasted away, as sometimes beavers pathetically persist in constructing dams and canals when the water has gradually dried up, or has changed its course. If we realise how a word may survive to oppress and mislead us, as other ghosts do, when the underlying thing has *dissolved*, we shall be more careful in setting up imposing names, as we physicians are very prone to do, until we are sure that the thing is there; and in no case shall we let a name give an absolute value to temporary or developing notions. The urgency of this lesson in medicine I will illustrate hereafter.

Meanwhile we must acknowledge that there is a strange magic in names, a charm of which we could not wish even our greatest makers to be devoid. Not old women only take comfort in "Mesopotamia." It is easy even on the instant to be sure of finding many an illustration of this charm upon the poets. Assuredly Homer did not write the following words—as commentators say—just as a "catalogue," but greatly for the joy of the words (forgive my reading the original; the sense does not matter):

> *οἳ δὲ Πύλον τ' ἐνέμοντο κὰι 'Αρήνην ἐρατεινὴν*
> *καὶ Θρύον 'Αλφειοῖο πόρον κὰι εὔκτιτον Αἰπύ.*
> *καὶ Κυπαρισσήεντα κὰι 'Αμφιγένειαν 'Εναιον*
> *καὶ Πτελεὸν κὰι 'Ελος κὰι Δώριον, ἔνθα τε Μοῦσαι*
> *ἀντόμεναι Θάμυριν τον Θρήικα παῦσαν ἀοιδῆς,*
> *Οἰχαλίηθεν ἰόντα παρ' Εὐρύτου Οἰχαλιῆος, …… κ.τ.λ.*

Nor Milton these:—

> "Next Chemos the obscene dread of Moab's sons
> From Aroar to Nebo and the wild
> Of southmost Arabim; in Hesebon
> And Horonaim, Seon's realm, beyond
> The flowery dale of Sibma clad with vines
> And Eleale to the Asphaltic pool."
> *Paradise Lost*, I., 406.

From such sonorous cadences, half-sensuous, half-imaginative and memorial, words which like Juno's eyelids or Cytherea's breath, or, like that homely one "Daffodil," falling as fragrant from Dis's wagon, words which are emotions rather than thoughts, we pass easily on to consider what knowledge words carry to us. Words for the mind are fraught with three qualities at least—with Sense, Meaning, and Significance.[1] By Sense we indicate the direct intention of the very words themselves, although the sense is often dependent more or less upon the context; and we know, moreover, that many words have more than one direct sense; for instance, "a man of parts" may be a man of talents or an actor; and so forth. By Meaning we indicate that which the author wished to convey; a burden unfortunately too often very different from the sense. For instance, I have just read "The planter must work hard for nine years, and only in the tenth year will he make profit"; a hard saying indeed until we guess that the writer did not mean the sense, but meant the planter would not make any profit until the tenth year; though thereafter we trust an annual profit. Thirdly, by Significance we mean something more diffused and impalpable than either sense or meaning. For instance, few sentences are more significant than this of Hippocrates on a form of sterility which the Scythians attributed to divine visitation: "For my own part," says the Father, "I think that this malady is divine as all maladies are divine, that no one is more divine or more human than another, but that all are divine alike."[2] It is fallacious, no doubt, to endue the words of an ancient thinker with modern significance; but it is no unreasonable licence to read in these words an anticipation of the deeper thought of our own day on the conception of God. Or, again, to say that in man the male mamma has virtually no outward channels in sense and in meaning might seem an obvious and almost insignificant statement; but does it not become highly significant when we remember that primary cancer of the male mamma is a very rare event?—so rare that I have never seen it. Such examples elucidate Significance better than any description can do: perhaps indeed it is difficult to define significance without implying also something which the reader brings with him; certainly a great part of his significance the author may not have deliberately foreseen and intended; it is often something intuitive, springing from his sympathy and imagination as well as from his systematic purpose. Whether Carlyle were fair or unfair in attributing to Mrs. Mill "much unwise intellect," Mill himself illustrates the distinction of Significance in this, that the significant part of his writings is generally felt now to lie less in his sense and meaning than in a sympathetic humane aspiration which, in an intimate but intangible way, animates almost the whole of his works. This quality of Significance is then indeterminate; it has a certain remoteness and ideality, and if cribbed in bare propositions is apt to evaporate. Comparatively and respectfully speaking, Macaulay has always seemed to me among great authors as deficient in significance, as of more accuracy and learning than of insight, as lacking in purport beyond his purpose, and in the ideality which, apprehending and living in the growing edge of things, sees and signifies them *sub specie matris creatricis*. For it has been well said that the whole globe of the earth is but a nutshell in comparison with its significance. To distinguish yet more closely, I might speak of Carlyle and Ruskin as authors who have significance almost in inverse ratio to their formal and often very vague or fallacious doctrines. Their faults were diffuseness, incoherence, lack of concentration and selection, but not insignificance. No little of the significance of Carlyle was his contempt for phrases; his grip of reality, of things; for this significance his stories were but parables. I wish we could feel sure that even in the very strongholds of science we are in no danger of this inveterate disease of taking words for things.

But before entering upon the use of words in natural science I would regard for a moment their use in logic. The basis of logic must consist in a confidence that the minds of men, if not identical, have a community of nature; that they are so far alike that they can harmonise and make mutual appeal one to another. The personal equation, the individual temperament, is only so various as to give a piquant variety to our agreements. We are as different instruments in one orchestra, each with its own quality but all with the same tonality and the same gifts of congruity. Locke said of logic that one cannot apply the syllogism until the truth is ascertained, and that then one does not want it. The answer may be, nevertheless, that having apprehended a truth we apply the syllogism to discover and formulate the deftest, most economical, and most effectual mode of expressing it. Yet there is no small danger lest we should not use logic thus clear-sightedly, but should be tempted to suppose its manipulation of words to be a manipulation of things; lest the constructor of syllogisms should suppose himself a creator of truth. In the Middle Ages men fell into this kind of aridity: they forgot that as we abstract we are departing from things, and passing into a land of symbols; out of the turmoil of natural events, colours and contingencies, into a land of artificial schemes, and may too readily leave observation for ingenuity, and things for formulas. Thus we are prone to suppose that truth is to be revealed by the conflict of argument, and, what is worse, to construct "thought cages" for ourselves and to hop contentedly about in them.

Of a certain ample head of a College in Oxford—a "warm man," as the phrase goes—it is told that on returning from a lecture of Bonamy Price, then professor of political economy, on the meaning of Money, the Warden exclaimed, "Mere logomachy, mere logomachy! I know"—slapping his breeches pocket significantly—"I know what money means!" The Warden was aware of the peril of abstractions. Undoubtedly, however, in the last hundred years we have been devoting ourselves, and with marvellous success, not of course to get rid of abstractions, but to divest them of "substance," to appraise their value as devices of thought, and to determine their functions; yet we are, notwithstanding, still a prey to formulas and accept words for things. And we err in two curiously opposite directions: we personify names, and then, because by this factitious solidity they impose upon us, we leave them standing while we are no less busily, if unwittingly, engaged in pulling to pieces the concepts to which they were applied. Thus names become flimsier than ever; no longer corresponding even to concepts they are but the rags of thought. If thought is to have any consistency we must keep a jealous eye to the precise connexion of names and concepts; if on the contrary we keep dissolving, enlarging, or altering the contents of our mental museum and, while still the slaves of names, leave the labels as they were, we cannot be saved from a regiment of fictions.

Some of you who have heard my teaching before must forgive me if I repeat my insistence that the name of a disease is not, as it is continually regarded, a thing. There is no such *thing* as typhoid fever, as angina pectoris, as spleno-medullary leucæmia, and so forth; the things so called are Wilkinson, Johnson, and Thompson, who after their kinds are afflicted not alike, but within such limits of similarity as to lead us to class them together and to form a general conception of them. Yet still we overhear at learned societies physicians whose shoe latchets I am not worthy to unloose contending, even with heat, whether this name or that is a "morbid entity." Now "entity" is anyway a bad word, as words can be bad; it was born badly, and has kept bad company. It was born to signify that reality of substance which was once supposed to underlie abstract names, and in these ontological circles it has moved ever since. If we are to speak at all of "entities" in disease, these must be not the names, nor even our concepts, but the things—the thing Thompson and the thing Wilkinson in certain phases of their being. The moment we depart from these objects we desert the names of things for the names of abstractions in which no entity can lie, the name being but a label to denote a somewhat arbitrary and ideal group of characters, or type, never perhaps manifested in nature as a whole, but to which certain individuals are continually approximating. I do not pretend for a moment that we can do without abstractions; without them reasoning would be impossible: our safety lies not in avoiding reason but in being quick to recognise the tendency of ratiocination to carry us away from the only pregnant subjects of reason—namely, from things, with which reason should never cease habitually and steadily to concern itself.

It is only by examples that discussions such as this can be made clear. In epilepsy, for instance, we observe a vast number of persons attacked in modes not identical but similar, modes, however, the features of which shade off by insensible transitions into the features of other groups of symptoms; so that our concept is not of an absolute but only of a relative uniformity. This we should remember when we use the name; as we remember that when we call a certain group of stars Orion, or Charles's Wain, that there is no rigid division between these star groups and those of the neighbouring constellations. Now epilepsy is no more an entity nor an absolute idea than Orion; it is the name of an arbitrary group, so separated for the convenience of the thinking faculty of finite beings. So far as to the nonentity. But, as I have hinted, we proceed, having set up our entity, to treat it as savages treat their images, to shake and to harry it at our caprice. Surely, having accepted a name for a group, we ought to keep to it; and yet we find our friends daily calling widely different concepts by the same label of epilepsy; for instances, puerperal or uræmic convulsions, Jacksonian convulsions, certain insanities, and so on, events so very different both in nature and grouping that, if we give them also the same name of epilepsy, we shift our things without shifting our labels. Or, again, consider angina pectoris; if there be a uniformly recurrent group of clinical features it is that for which this name was invented; yet we shift the label about, now to spasms of neurotic women, now to vague and casual cardiac pains or discomforts consistent with almost any kind of heart disease. Most grotesque, perhaps, are the "pseudo" compounds, such as "pseudo-angina," "pseudo-leukæmia," and the like; think for a moment of calling scarlet fever "pseudo-measles"! yet it is not very long since these two maladies were distinguished. It were but too easy for me to prolong such a list of ambiguities due to shifting our labels, or to shifting our concepts under the labels; but these must suffice. Remember that when it is asked if such and such a group of systems be a "morbid entity" or not, that since the day of William Ockham we have given up entities, that the question is now one only of convenience of reason; but that when we have once agreed to give a certain name to a certain morbid series of events—arbitrarily agreed, that is—then we must stick to our label; for if the label is to be shifted about, or the things under it shifted, all accurate reason comes to an end. The best labels for diseases are such names as epilepsy, measles, leprosy, Graves's disease, and the like, which, having no attachment to hypotheses, are readily carried to new anchorages. One may walk dryshod from one disease to any other, yet on the other hand it is no less true that, because of the large differentiation of his parts and organs, in Man his morbid processes tend to a corresponding uniformity of recurrence; his symptoms recur in similar groups and orders—symptom-groups or syndromes as they are called by certain nosologists who are desirous of some name finer than the old term "disease," or are possessed with the tenacious notion that a disease is a real something in itself. But diseases are not even species, such as cats and toads, but abnormal, though not altogether irregular, behaviours of individuals.

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[1] Students of this subject must not forget, among nearer sources, to recognise their debt to M. Bréal and Lady Welby, whose treatises on "Significs" have brought this subject within the reach of the general reader.

[2] De Aeris, &c., § 22.

Once more; not content with this ambiguity we entertain the converse notion also that, give it a name big enough, we can make a disease of a symptom. For example, bradycardia and tachycardia, symptoms, in their degrees, of many a morbid process, impose upon the unwary student as even themselves "morbid entities," a notion twice removed from the truth, a shadow of a shade.

Our debt to the morbid anatomist is so profound that in our gratitude we are forgetting that the pathologist is not a clinical physician; indeed, that so long as he is denied right of access to the living patients in the wards he is becoming more and more a man in a balloon. His laboratory is full of things no doubt, and hitherto he has dwelt soundly in things; but chiefly in dead things, not in things at work; yet our only real things are processes. Yet the pathologist has been largely concerned in undermining our clinical concepts; and so invaluable a service has he done us in compelling us to occupy ourselves with things rather than words that we are gratefully disposed to believe he can do no wrong. Hence, without protest, we have allowed him to re-label some of our things with his labels; often to our advantage, but at least sometimes to our error. For instance, the pathologist has seduced us into allowing him to use the label of arterio-sclerosis as the name of a disease. Now if for the physician a disease is a series of symptoms recurring with such uniformity that we think it convenient to distinguish it with a name, arterio-sclerosis is not such a series; it is not a series of symptoms at all; it is a result, a statical result of foregone symptoms, probably of more than one series, and, if so, probably itself a compound name even in pathology. The physician who recognises the imperative duty of dwelling in things ought to guard himself from being supposed to mean only things that stand still; his sphere is on the contrary with things in motion; he is a master of dynamics. We do not agree with those opponents of Heraclitus, who said that moving things could not be subjects of thought. To take another instance; the physician, unfortunately, it is true, has given the name of "granular kidney" to a certain series of symptoms, and a very characteristic series it is; headache, nausea, high blood pressure, anæmia, emaciation, debility, retinitis, vomiting, coma, make a very imperfect summary of them. Now the pathologist has taken to the use of this clinical name for every kidney more or less granulated by fibrosis; but is he justified in saying of any such case to the physician, I mean with a clinical connotation, that the "kidneys were more or less granular"? For, in this sense the adjective is not clinical, it is but roughly descriptive of a dead organ; yet the bandying of it between the pathologist and the physician is a daily source of error and confusion. The clinical problem is whether the fibrosis was but a local expression of a general atrophic fibrosis, or originated and consisted in a very slow toxic necrosis of the secreting structures of the organ with a substitutive fibrosis.

But I must hasten on to another direction in which logic is apt to generate a reliance on words to the neglect or misinterpretation of things. In logic we are able to separate qualities of things, and to place them in divers categories so distinct that we are seduced into regarding these factitious categories as things. For purposes of analysis we may, and indeed we must, often study divers aspects of a thing separately, but only as an artificial and temporary expedient; not, as we have seen, so as to conduce to a habit of endowing these several aspects or qualities with independent life, or so as to blind us to their essential and active unity and integrity. We have hampered ourselves, for example, not exactly by considering structure and function severally, as a temporary device of thought, which is not illegitimate, but by dwelling on either to the exclusion or neglect of the other. Thus absorbed in the discoveries of morbid anatomy pathologists for many years forgot the genetic processes in which their specimens had their origin. Both in pathology and in clinical medicine, moreover, logical definitions were formulated which tied up living medicine in bandages as stifling as those in which Andrea della Robbia swathed his babies on the Loggia of the Hospital of the Innocents: but in biology definitions can never be more than summary descriptions. In a higher sphere of speculation the Athanasian creed is a notable collection of the surds which logic can manufacture for those who take abstract qualities for things. It is not the life but the mechanism of thought. A bitter controversy raged for centuries over a purely logical distinction between faith and works; the one being of course a function of the other. So, again, in psychology analytical divisions are made between Intellect, Imagination, and Will, factitious divisions which find their way into practical matters, to the prejudice of the gravest interests of education, sound criticism, and the conduct of life. Even yet it is hard to convince people that these distinctions are purely logical, having no several function; and that every action consists in a fusion or rather in the integration of all three qualities. That these qualities exist in various proportions in different individuals does not prove the independence of each of them any more than of various noses; but the assumption of such an independence, as I have urged at length elsewhere[3] has thwarted, vitiated, and even sterilised our theories of mental life and growth. In forgetfulness of the imagination, with which he himself was so largely endowed, Francis Bacon forgot likewise the part of this great faculty in scientific discovery, and fell into the narrow view of it as a mere intellectual stringing of fact to fact, as on a necklace; whereas imagination is the pioneer faculty, always beckoning intellect on; though too often, if the sisters do not walk hand in hand, feverishly and fancifully. An apple falls from a tree, everybody's fact; it was Newton's large imagination that saw in it a symbol of universal gravitation. Darwin may have collected no greater pile of facts than some other naturalists; at first, indeed, specialists for the most part fought against him; but Darwin saw the facts common to him and to them in the light of a vast imagination. Much of the work which is done in our laboratories and dignified, not improperly perhaps, with the title of research, much plotting of curves, much watching of levers and thermometers, nay not a little morphological dissection and cabinet-making, are really little more than clerk's work. To be no more than learned in facts and opinions, with whatsoever skill in methods, is not to make knowledge. Bundles or files of facts are not science until the man with the formative, let me say the creative, insight comes along, who by the fusion of intellect and imagination seizes upon the significant facts, those which give him the lines on which to build up aggregates of materials into a conceptual edifice. Emil Fischer waxes very bold, and speaks of the "intuition which is the essential gift of the organic chemist." It almost makes one's mind ache to try to conceive the mental detachment, the power and compass of the *imagination* which realised the heliocentric astronomy; a conception which, for the ordinary man, flouts all earthly experience. Yet we were warned from Olympus a few weeks ago that "it is the business of science to present the facts, and to let them alone"!

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[3] Professional Education, Macmillan, 1905.

No less factitious and eviscerating is the verbal division between "pure" and "applied" science, as if we could have a science of nothing; such was the divorce between medicine and surgery with which I have already dealt elsewhere.[4] The homily of all this is to insist that as we abstract we depart from things; and the wider the successive abstractions the farther we are leaving things behind, the more and more are we eliminating those conditions and contingencies in which processes, organic and inorganic, essentially consist. Science is not creation but analysis of creation; and the strange adoption of the word "synthesis" to signify not the fullest life in the fullest environment but the uttermost epicycles of abstraction is an instance of the confusion wrought by misuse of words.[5] General principles then are not applicable to things until we have reconstructed all or much of those very complexities in real processes which we had been at the pains to abstract. In medieval times so fastidious were logic and abstraction that practice became a vulgarity, and he was the greatest teacher who carried his pupils farthest from things; a departure from reality which brought about a grievous revenge. Since Galileo we have been discovering that our abstractions must incessantly be fertilised, tested, braced, and articulated with facts; that is to say, with systematic but common experience.

Yet, I repeat, *the dangers of* abstraction have by no means vanished even in the ranks of natural science; the soaring vanity of the human mind is seen still among those aeronauts the "pure scientists," as well as in the dry academic temper of humanistic students. The boast that a study is lofty in proportion to its uselessness, the conceited distinction between pure and applied science is still heard, even in the laboratory. Many Cambridge scientists were so shocked at the suggestion that a brewers' research should be established among us that the suggestion was frowned down, not because the objectors were teetotallers, but because brewing is vulgar; and possibly useful. In some high quarters the establishment of engineering met at first with a like chilling reception. Medicine likewise, the mother of the biological sciences, because she deals with things, has always been for our serener circles, a Cinderella, blooming maid as happily she has grown nevertheless. But it may be objected, surely the laboratory deals with things! Far nearer to things indeed it is, when compared with the lucubrations of former times; but the laboratory, invaluable, essential as its work generally is, is apt to dwell only half in things; and nature will have no half loves. It is in the full commerce of nature and men that the problems fruitful of science arise; their events and processes, vulgar as they may be, are full of the unexpected, and it is beyond the imagination of any scientist even to conceive the combinations and emergencies of practice unless he is conversant with things. Furthermore, were he to try never so generously to imitate natural processes and events on his artificial platform, he could not possibly reproduce them with their environment and complexities. The navigator of models in a tank would cut a poor figure as captain of a man-of-war in the Atlantic. So it is that without periodical steeping in the world of practice theoretical researches tend to remoteness and vacuity. It is by continual touch with Mother Nature that we renew our strength, and for her nothing is common or unclean.

It may be protested that logic has surely been an engine of progress in reason in the past, and it may be asked what is to take its place? The answer is, first, that no one desires to banish logic but, while keeping it in a subordinate place, to remember always its artificial nature; secondly, that formal logic is now surpassed, if not superseded, by the interpretations of evolution, by a natural logic of affinities. But this is too large and perhaps too familiar a chapter for our thoughts to-night.

So with your permission I will turn from the perils of logic to the perils of metaphor. There are certain hard-headed folk who stoutly declare that metaphor is altogether intolerable, and by the sober author must be eschewed. But unfortunately these protestants protest in metaphor, for metaphors have so intimately penetrated and grown into the very structure of language that speech without metaphor is about as possible as to jump off one's own shadow. If we consider the matter for a moment we shall see that to begin to think is to begin to compare, and that this implies the use of analogies: dangerous tools of thought, it is true, but inevitable instruments in subjects of which the intimate nature or homology is yet unknown. Now metaphor is of the nature of analogy. Metaphor, however, is for illustration rather than for argument; and we shall have a care how far it takes us; especially in natural science where our very purpose is to dissolve superficial, allusive, or partial comparisons into the profounder comparisons of genesis. It is in the conveyance of relatively finished conceptions to other minds that the man of science may well use metaphor deliberately; and for such restricted purposes Huxley and many another scientific author of the highest rank have used it freely. And could a lecturer on the influence of the sun's rays desire a more convincing prophecy of their virtue than this metaphorical passage, written more than three hundred years ago by one of the greatest and least known writers of English prose[6]: "Nor does [the Sun] only illuminate all these objects in an idle manner; its beams are operative, enter in, fill the pores of things with spirits, and impregnate them with powers, cause all their emanations, odors, virtues, and operations; springs, rivers, minerals, and vegetables are all perfected by the sun; all the motion, life and sense of birds, beasts and fishes dependeth on the same;" and so on. Metaphor is then analogical argument heightened by imagination, and as such must contribute to the increase of wisdom. To defend metaphor by metaphor I would remind you that it was not the horses of the sun but their incapable driver who caused the disaster. Metaphors then are indispensable, but must be carefully chosen, must be regarded rather as illustrative than explanatory, and must not be pursued beyond the measure of apt correspondence.

For my part I think less harm is done by metaphor, which can be appreciated as such, than by equivocal words; and it is to such words, to misused or degenerated words, and to the impostures and tyrannies of words, that I would in my few remaining paragraphs, however briefly, engage your attention. Of equivocal words and of the harm they do, there is no end. Some of you may remember the words of Plato in the Phædo that false words are not only in themselves evil but infect the soul with evil. So in science they infect the understanding. I must run the risk of discursiveness, and point to a few of them as they come. Some words are by nature of elusive temper; thus the word "force" by its equivocations has caused infinite trouble to men of science; they have been hunting it down this hundred years, but it has not been quite cornered yet. "Law" has more mischief to account for, as by its double dealing it carries error in all directions. Day by day we see well-meaning men confusing themselves and others by ignoring that in science law is not a rule imposed from without but an expression of an intrinsic process. The laws of the lawgiver are impotent beside the laws of human *nature, as to his* disillusion many a lawgiver has discovered. The word "compensation" we find frequently used in Medicine as a *vis medicatrix ex machinâ*; whereas we ought to mean that when a system in equilibrium has found itself able to re-adapt itself to a certain incident disturbance it survives, otherwise it is upset; this re-adaptation, on which its stability depends, varies not with any benevolent purpose or guiding principle, but with the intimate limits and conditions of the system itself. Other words are question-begging; such, in my opinion, is the word "mechanical" in its modern application to the cosmical order. Surely a machine is a system of tangible parts arranged to compass certain effects when it is set agoing, directly or indirectly, by human agency; left to itself it is impotent. We note the old error of Paley and the watch restored to respectability by modern philosophers. The philosopher may say that he does not intend the word to be used in its vulgar sense, but his readers do; and not only so, he himself vitiates his argument by many an implication of this meaning and speaks scornfully of a mechanical conception of the universe. "Utility," again, and its adjective "utilitarian"—what wars have been waged over these words; some disputants using them, as in common parlance, in the sense of immediate profit; others in the sense of remote profit—the old quarrel, by the way, between the "pure" and the "applied" science champions. Nay, let me spy into the citadel—into truth itself! Pilate was no "jester" when he asked—What is truth? for we have not yet agreed what the name is to mean. Is truth an absolute transcendental existence; a transcendental whole, yet in relation with us so far as to govern our ideas with an authority, as it were external? Or is it natural, partial, and relative, and to be found in the gradual establishment of a harmony between man's normal desires, and his satisfactions in experience? Or again, does it lie simply in affirmative propositions? The word is used *chaotically. No doubt, as we have seen, a word may have* two or more orderly senses, to be severally determined by the context; and truth may be used by *metaphysicians* in the first sense, by naturalists in the second, and by logicians in the third; but if so let this discrimination be steadily observed. On the other hand, the word is unduly neglected when truths are called "facts" Few abuses of language are so perverse as the misuse of the word "fact." I have grown accustomed to anticipate, on hearing it, a more than usually hazardous opinion, and nearly always some general statement depending upon facts; rarely indeed the proper *sense of* the word—namely, *something* which *has happened*. The word has become indeed so ambiguous that *it is no longer trusted alone but has to be guarded as* in the phrase "actual fact." The common use seems to be that my opinion is a fact, your opinion is a theory. Theory, on the other hand—the highest range of scientific truth—is used almost as a term of contempt. A brilliant author and man of science wrote the other day—"this which was never more than a mere theory"—never, that is, more than conjecture; or shall we say fad, craze, or moonshine? We cannot defend ourselves by pleading that we have more care for the thing than for the word. We might as well shuffle about the names of our collections of butterflies and beetles and so qualify ourselves for the giddy supremacy of Toinette —"Moi, je suis l'inexactitude même." Thus dull Britons are encouraged to vilipend the *systematic results* of investigation and to content themselves with rule of thumb.

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[4] The Historical Relations of Medicine and Surgery, Macmillan, 1905.

[5] I have been asked why I did not avail myself of the *locus classicus* on the sorcery of words—namely, the advice of Mephistopheles, "Generally speaking, stick to words" &c. Well, a quotation, even the aptest and best, can become trivial, and my readers probably know where to find it, in the fourth scene of the first part of *Faust*. Perhaps a little less generally familiar is Mr. Shandy's "'Twas not by ideas, by Heaven, his life was put in jeopardy by words."

[6] Works of Thomas Traherne. Edited and published by Dobell, 1906.

But as I have spoken at length of these words "theory" and "fact" in my little book on "Composing Scientific Papers"—a book which I hear is well known to you—I will not weary you with these or more examples of false words. Nor may I do more than allude to the words, abundant in politics but not confined to it, which by their demoniacal power force us into grooves; such words as socialism and individualism, free trade and protection, and so forth. The word "specialist" is scarcely wanted, for "expert" is a better one, and "specialist" has become "groovy" in the sense of a narrow and warped and perhaps not altogether disinterested observer, at best a harper on one string. In truth Nature is one and indivisible, the way into her fields if long and hard is not narrow, and *from whatsoever gate* we enter in spreads to us, if our eyes are open, as wide a view. Some words again are so pompous that they exercise a spell over us by their self-assurance, such as embryocardia, meiopragy, mithridatisation, and the like—words in buckram we may call them—for which we quickly snatch up somebody's missile of "Scheinphysiologismus." Other words and phrases again are flimsy rafts, which take us, like the Jumblies, to sea in a sieve, with tobacco pipe masts and sails of pink paper; thus one may set sail on such a sieve as "the disease is no doubt due to a faulty metabolism, giving rise to automatic intoxication"; and similar clinical cant, which I will not pursue. Then there are thimble-pea words, which may be popped in anywhere, such as "fatty heart" in clinical diagnosis. And there are the great multitude of South's "impostors"; the mouth of the alienist is full of them; some wit has called them "sandheap words." And there are some sinister words which distil boon or bane insidiously, of which we may take disease unwittingly, as our forefathers accepted their bodily infections. Metaphorical words are apt to have this quality in them, as when one ingenuous disputant calls a constituent element a *residuum* and the other calls it a *quintessence!* Comparatively harmless are the mere tokens with which some traders are satisfied; such currency, for instance, as "tabby-cat striation," and the like, which are frequently offered to us on the examination exchange.

Nihil in intellectu quod non prius in sensu: mind in its widest sense is, as we know, fed and built up by the senses, by the incessant streaming in upon us of outside impressions. Thus it is that animals, which within their narrow and immediate sphere live incessantly in sensation, are so extraordinarily successful in it. Their almost infallible perception and memory of experience is rather unconscious absorption than deliberate observation. We see the same high seriousness in children. Academic man, on the other hand, by abstraction is continually tending to arrest or ignore the inspiration of these centripetal nervous streams which should not antagonise but continually conspire with thought. Reflexion is imperative for us; thought is that attribute which is most divine in us; by its symbols we make the universe our own: yet if we permit divorce of thought from its materials—and it is by words *that we think—if we let thoughts* and words drift away from things, the mind itself, our minds individual and collective, must be surely impoverished. If we give no heed to our symbols—to our means of conceiving, recording, and formulating the conditions under which we have to design our world, our lives and our faiths, we shall be drawn almost as inevitably into error as if our observations were themselves erroneous. Watts, who with the creative faculty of an intellectual imagination, had in supreme degree the artist's power *of penetrating*, selective observation, and his mastery of expression, was ever counselling this incessant openness to the senses, with their burdens of things and experience. And, as our minds are thus enriched, as they become not less and less but more and more receptive of impressions, our words must be kept moving and continually re-tested for appositeness and values. They are winged things which grow, flourish, and decay, and are spiteful if we misuse them. Our most fundamental assumptions must be always under reconsideration, our rules of evidence made stricter and stricter, our appreciation of values more and more refined, and our principles of selection more and more severe.

And not our facts only, but also the *litera scripta*—documents, traditions, authorities—must lie always under question. Without the past the present cannot appear to us in its true perspective nor be fully interpreted. Without the history of medicine, and study of the words in which it is contained, modern medical ideas cannot be fully understood, nor the place and genius of our profession rightly known. Medicine is not a game to be played merely with science, coolness, and dexterity, but a calling to be pursued as humanly as the humanities must nowadays be pursued scientifically.

Finally, for this debating society our discourse on Words and Things has had little result unless I have led you to see more clearly that the purposes of it ought to be an unwearied contribution and verification of things; a vigilant criticism of insidious plausibilities, dislocations, ambiguities, unveracities, and insincerities of language; and not only a care for the choice of words lucid and exact, but also a training in the use of them in a significant context. As you grow in wisdom you will see more and more clearly that the gain of your debate is not to bowl each other out, but to translate the values of each of your minds into the permanent values of each other and of truth. The last counsel I leave with you is that you *shall* take me as an awful example of talking too much; and remember the saying of Izaak Walton that "words are men's daughters, but God's sons are things."

CAMBRIDGE GRADUATES MEDICAL CLUB.—The annual meeting and dinner of this club will be held at the Trocadéro Restaurant, Piccadilly, at 7 o'clock P.M. on Thursday, Nov. 8th. Mr. Herbert W. Page, the *President*, will be in the chair. The price of the dinner is 6*s*., exclusive of wine. Members are invited to bring guests. If any member has not received notice of the above he is requested to communicate with the honorary secretary, Mr. Hunter Tod, 111, Harley street, London, W.

ON SOME ASPECTS OF DILATATION OF THE HEART.[1]

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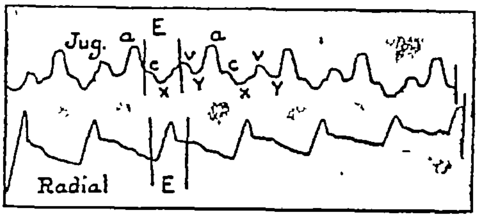
The rhythmical beating of the heart results from the innate qualities of the muscle fibres and is quite independent of the central nervous system or of the intrinsic ganglia. The rhythm may be influenced by stimuli that are brought to the heart by the cardiac nerves but the heart muscle is capable of beating rhythmically when entirely separated from all nervous structures and in normal circumstances beats without any activity of the nervous system. The properties of cardiac muscle are: rhythmicity, which is really the rhythmical building up of a stimulus, excitability, conductivity, contractility, and tonicity. Each muscle fibre possesses all these properties and even small strips are capable of rhythmically beating—i.e., are capable of building up the stimulating substance, of being excited, of conducting the excitation to all parts, and of contracting. The stimulating substance is formed most rapidly at the great veins and so the cardiac contraction takes its start there and is conducted through the auricles to the ventricles. Conductivity is probably but poorly developed in the connecting link between auricles and ventricles, the bundle of His, so that an appreciable time is required for the stimulus to pass to the ventricle. A contraction destroys the stimulating substance, excitability, conductivity, and contractility, and during the subsequent period of rest the stimulating substance is re-formed and excitability, conductivity, and contractility are gradually recovered. When the proper relation between stimulus and excitability is reached a fresh contraction takes place.

After excitability, conductivity, and contractility are sufficiently restored it is possible artificially to excite a contraction before the normal impulse descends from the great veins and the stimulus may be applied at any part of the heart. Such an extrasystole, as it is called, also temporarily destroys the properties of cardiac muscle. An extrasystole is usually followed by a normal contraction starting at the great veins and the interval after which the normal contraction takes place will depend on how early the stimulus has been destroyed by the extrasystole. The stimulus is formed regularly and always requires the same amount of time for its formation, while a certain amount of time is spent in the conduction of the artificial excitation from the point where it is applied to the great veins. Hence the pause after an extrasystole, the compensatory pause, is longer than a normal pause except when the artificial stimulus is applied at the great veins themselves. When the ventricles are stimulated the pause may be so long that the interval between two normal contractions—i.e., including the extrasystole—is exactly double the usual interval between two normal contractions. The extrasystole, since it occurs before contractility has fully recovered, is smaller than a normal contraction, although it is always the full contraction of which the heart is at that moment capable. The earlier the stimulus is applied in diastole the smaller the resulting contraction and the stronger the necessary stimulus.

The properties of cardiac muscle can each be separately influenced by various extraneous circumstances—e.g., nervous impulses, drugs, &c.—and any change in any one of them probably to some extent alters all the others. Many of the phenomena in disease are due to such changes in the muscle properties. Tonicity plays an important rôle in both healthy and diseased conditions. The efficacy of the cardiac contraction is largely dependent on the maintenance of tone and the resistance of the cardiac chambers to over-distension is almost entirely due to muscle tone. Weakness of the muscle wall and increase of pressure in the cavity are neither of them sufficient to bring about dilatation if the tone of the muscle be intact, and hence dilatation of the heart is essentially due only to loss of tone. Poisons, fatigue, and continued distension may all injuriously affect tone and so result in dilatation and nervous influences may also lower tone.

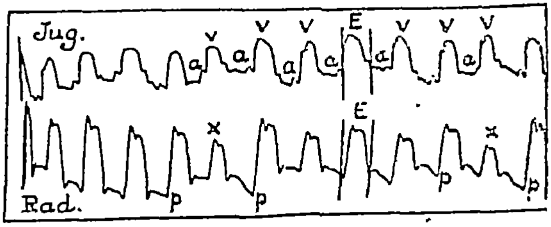
The clinical study of morbid conditions of the heart is much facilitated by graphic records of the pulsations of the liver or of the veins at the root of the neck where these occur. The waves in such a record may be accurately timed by taking a simultaneous tracing of the radial pulse or of the apex beat, as in the method advocated by James Mackenzie. In Fig. 1, for instance, simultaneous tracings have been taken from the radial and from the jugular vein. By keeping the clockwork still upright lines were obtained in each record which exactly correspond in time and therefore afford standards for measuring off corresponding points on the two curves. On the radial curve a period E can be marked off which is called the sphygmic period and is the time when the aortic valves are open. This same sphygmic period E can therefore be marked out on the venous tracing. The sphygmic period in Fig. 1 is preceded by a wave *a*, which is evidently due to the contraction of the right auricle; this is followed by a fall *x* during the sphygmic period, which must be caused by suction of the dilating auricle emptying the veins. When present this fall *x* affords one of the most certain signs of the previous contraction of the auricle, since the auricle cannot dilate unless it has previously contracted. The fall *x* is broken by a wave *c*, which from its early position in the sphygmic period is evidently due to the pulsation of the carotid artery. Only in exceptional circumstances is it possible to obtain a tracing of the jugular pulse without this wave due to the carotid, but its presence is rather an advantage than otherwise as it helps in the accurate timing of the other waves. The fall *x* is followed by a wave *v*, which lasts beyond the sphygmic period and is due to the passive filling of the veins. This wave can be seen in pressure curves taken in animals in the auricle itself.

Fig. 1.



It is probable that the heart is constantly exposed to a number of stimuli apart from the stimulus it rhythmically builds up for itself. These stimuli may arise from nervous impulses, from alterations in the composition of the blood-supply, or from foreign substances contained in the blood, and from tension of the muscle fibres themselves. In ordinary circumstances these stimuli are not sufficiently powerful to excite a contraction but with an increase of the stimulus or an increase of excitability of the muscle an extrasystole would be produced. Of these two an increase of excitability is the most frequent cause of extrasystoles in human beings. Such extrasystoles may start from the auricles or from the ventricles and in cases showing a venous pulse it is easy to ascertain their point of origin. An example of an extrasystole arising from the auricle is shown in Fig. 2. At the points *x* in the radial tracing a small systole is shown, occurring too early but preceded in each case by the auricular beat, as shown in the jugular record. Each extrasystole is followed by a long pause—the compensatory pause—and the double interval *p*–*p* is equal to the double interval of two adjacent normal beats, which shows that the extrasystole had started from a spot on the auricles some distance from the great veins and that the excitation had not reached the great veins before the full development of the normal stimulus. After the compensatory pause the next normal contraction is of larger size than usual owing to the longer time given to the contractility for recovery.

Fig. 2.



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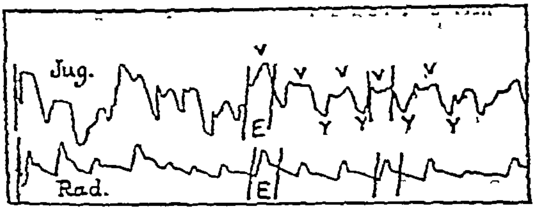
[1] Abstract of a paper read before the Royal Medical and Chirurgical Society on Oct. 23rd, 1906.

At times, particularly in cases of valvular disease with somewhat dilated hearts, extrasystoles tend to occur regularly, giving rise to the so-called bigeminal and trigeminal pulses (an extrasystole after each normal beat or after every second normal beat). When the extrasystole of the ventricle takes place very early, and so is very feeble, no pulse may be felt at the wrist and no wave may even be shown in the sphygmogram. In this way a false bradycardia may result, the correct interpretation of which may be at times difficult. Further tracings, however, from the same patient usually clear up obscurities. When the excitability is greatly increased the number of extrasystoles may be so great as completely to obscure the normal regular cardiac rhythm. An example of this is given in Fig. 3, where all the beats appear as if they were extrasystoles of ventricular origin and it is impossible to recognise any rhythm. The administration of digitalis, two drachms of the infusion every six hours, rendered the heart in this case less rapid and less irregular, so that it was easy to recognise a rhythm and to distinguish between extrasystoles and normal contractions. Extrasystoles are, of course, not confined to dilated hearts but may be found with hearts that are perfectly healthy, but increased excitability is one of the most prominent features of cardiac dilatation, so that it is not surprising to meet with extrasystoles more frequently in this condition.

FIG. 3.



Owing to the absence of a compensatory pause after the presumed extrasystoles in such tracings as Fig. 3 and the impossibility of distinguishing between extrasystoles and normal contractions it was at one time supposed that in these cases of delirium cordis there was an irregularity in the formation of the stimulus. It can, however, be demonstrated that with increasing excitability the extrasystoles get more frequent, giving all gradations up to the delirium cordis of Fig 3, and that with decreased excitability a regular rhythm broken by extrasystoles is again obtained. In Fig. 3 the beats are probably all extrasystoles and therefore no compensatory pause would be expected, since when two or more extrasystoles occur together the compensatory pause is only found after the last one.

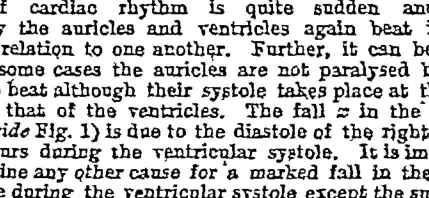
There is a further point with regard to the irregularity of the rhythm in "delirium cordis." As will be pointed out later, the inception of the rhythm in these cases is assumed by the ventricles. When in ordinary circumstances an extrasystole starts from the ventricle the compensatory pause is the longest possible, since the extrasystole does not reach the starting-point of the normal rhythm (viz., the great veins) until the full development of the normal excitation, and the ventricles have to await the next normal excitation before their next normal systole can occur. Where, however, the rhythm of the heart starts from the ventricle, the place of origin will be close to, or identical with, the place of origin of a ventricular extrasystole and hence the compensatory pause will be short, as in cases of auricular extrasystoles arising near the great veins, or absent, as in cases where extrasystoles arise from the great veins themselves. It is thus evident that an increase of excitability, and the consequent occurrence of extrasystoles, affords an amply sufficient explanation of the irregularity that is found in dilatation of the heart, even of an irregularity so excessive as to justify the name of "delirium cordis." This explanation, too, is a much simpler one than that afforded by the supposition of an irregularity in the time of formation of the stimulus.

One of the striking alterations in the cardiac rhythm associated with dilatation is the increase in rate which we invariably find. An increase in rate may be due to two causes: (1) increased rate of production of the stimulus; and (2) increased excitability. In most cases both these factors are probably at work, especially where the increase of rate is very considerable. With a very rapid heart, and so a greatly increased rate of production of the stimulus, little opportunity is afforded for the occurrence of extrasystoles. We therefore usually find that with great rapidity of the heart the rhythm is regular and not infrequently with reduction of rate irregularity makes its appearance.

Regurgitation through the tricuspid valve naturally alters the appearance of the tracings obtained from the veins in the neck. Slight regurgitation shows itself by an increase in the wave v (Fig. 1) and by its earlier occurrence. With greater incompetence of the valve this wave from the ventricle will occupy the whole, or nearly the whole, of the period of the ventricular systole obscuring the wave c due to the carotid. For instance, in Fig. 2 the whole of the sphygmic period E is occupied by the great wave v which is preceded by the small auricular wave a. In Fig. 3 the wave v is seen to extend even beyond the sphygmic period and to last throughout the ventricular contraction, since the small resistance offered by the veins allows the ventricle to force blood into them after the increased aortic pressure has closed the semilunar valves.

Should the auricles lose their tone in cases of incompetence of the auriculo-ventricular valves they would be violently distended by the blood forcibly thrown into them by the ventricles and hence would become extremely dilated. In consequence of this extreme dilatation the contraction of the thin-walled auricles would be very inefficient and the refilling of the ventricles would mainly depend on the quiet flow of blood into them during diastole. Mackenzie has discovered that there is a further very remarkable phenomenon associated with that more extreme dilatation of the heart which we are accustomed to call heart failure. This is the transference of the inception of the rhythm from the great veins to the ventricles. One might reasonably suppose that this was caused by the progressive dilatation of the auricle eventually paralysing it. That this is not the correct explanation is proved by the fact that in some cases of acute dilatation (e.g., in paroxysmal tachycardia) the starting of this peculiar type of cardiac rhythm is quite sudden and with recovery the auricles and ventricles again beat in their normal relation to one another. Further, it can be shown that in some cases the auricles are not paralysed but continue to beat although their systole takes place at the same time as that of the ventricles. The fall x in the jugular pulse (*vide* Fig. 1) is due to the diastole of the right auricle and occurs during the ventricular systole. It is impossible to imagine any other cause for a marked fall in the venous pressure during the ventricular systole except the suction of the auricle which, as Keith has shown, is largely due to the traction of the contracting ventricle on the auricle. The regular repetition of such a fall in the venous tracing becomes, therefore, one of the most certain signs of the occurrence of auricular systoles. I have been fortunate enough to meet with two cases showing the simultaneous contraction of auricle and ventricle. The girl from whom I took the tracing in Fig. 4 had chronic disease of the mitral valve with a regurgitant murmur and was suffering from a recent attack of rheumatic pericarditis along with dilatation of both right and left sides of the heart. In this tracing a wave a occurs regularly in the early part of the sphygmic period followed by the fall x, then the wave v, and the fall y due to ventricular diastole. The fall x, as pointed out above, must be due to the diastole of the auricle and the only trace of the necessary preceding contraction of the auricle is the wave a. The systole of the auricle requiring so much less time than that of the ventricle, we find both the systolic rise in the veins and the diastolic fall from suction of the auricle completed during the sphygmic period. Mackenzie has stated that this type of cardiac rhythm may be permanent or may disappear with recovery of muscle tone. From the patient who gave Fig. 4 the same type of tracing was obtained over a space of ten days,

FIG. 4.



but on the fourteenth day the venous pulse had disappeared. As the patient had made a progressive improvement during these 14 days, with a distinct lessening of the cardiac dilatation, it is probable that at the end the chambers were again beating in their proper order.

It is more usual in cases where the rhythm starts from the ventricles to find no evidence of an auricular contraction, as in Fig. 3, where in the jugular pulse there is only a single wave v. It is noticeable that this wave v starts before the sphygmic period E and lasts beyond it. The ventricle, however, is in systole for an appreciable period before the aortic valves open and for an appreciable period after they close—i.e., before and after the sphygmic period—and it would be quite possible for the ventricle to force blood into the veins where the resistance is low when the high arterial pressure closes the aortic valves. It is probable that the contraction of the auricles where the cardiac rhythm takes its start in the ventricles is a hindrance to the circulation, since it would hamper the flow of blood towards the heart from the veins without itself sending any blood through the auriculo-ventricular valves into the contracting ventricles, but this condition would be more easily recovered from than that where the auricles are merely passive. It can well be imagined that the latter condition when once established tends to become permanent and it is remarkable how well the circulation can be maintained even for years without the auricles working. The patient from whom Fig. 3 was taken improved greatly while in the hospital and was able to get up and to move about fairly well, although there was, of course, considerable dyspnœa on exertion. Nevertheless, on all of the numerous occasions that she was examined the jugular pulse was of the same character, showing permanent paralysis of the auricles. Mackenzie has been able to examine post mortem the hearts of several patients who during life exhibited this evidence of paralysis of the auricles and in all he found a very extreme degree of auricular dilatation. One of my own cases showed exactly similar changes in the heart after death, while before death the rhythm was ventricular in origin. Although the venous pulse only gives information as to the condition of the right auricle it is probable that the left is paralysed in these cases as well. Mackenzie has noticed in cases of mitral stenosis that with the onset of heart failure and the inception of the rhythm by the ventricles the pre-existing presystolic murmur disappears, being sometimes replaced by a diastolic bruit best heard at the apex. Personally, I have not heard a presystolic bruit in any of the cases with ventricular inception of the rhythm that I have come across. The patient whose pulse is recorded in Fig. 3 had a diastolic murmur at the apex and no doubt had some stenosis of the mitral valve, while in the patient who died stenosis of both mitral and tricuspid valves was found, although in life only a systolic murmur was heard.

When fully established this type of cardiac rhythm starting from the ventricles tends to become permanent; but in the short and temporary attacks of heart failure which are not uncommon during the course of valvular disease the rhythm, after a temporary derangement, may return to the normal order of great veins, auricles, and ventricles. This is perhaps best illustrated in cases of paroxysmal tachycardia, of which some excellent tracings are given by Mackenzie and Hay. The obvious indication for treatment is to try to get the normal rhythm restored as soon as possible in cases of heart failure, or, in other words, to restore the muscle tone as soon as possible. Mackenzie does not find the ventricular inception of the rhythm common in the chronic myocarditis of older people, whereas Hay finds it common. Personally, I have taken tracings from about a dozen patients in whom I had diagnosed chronic myocarditis and in two I found the rhythm permanently starting from the ventricles. I have not yet had an opportunity of seeing the actual development of this type of cardiac rhythm, but it is apparently usual to meet with a number of extrasystoles starting from the ventricles previous to the change of type of rhythm. Gaskell has shown that in animals it is possible to make the rhythm start from the ventricles by stimulating them sufficiently rapidly. What actually causes the auricles to cease contracting in these cases is apparently, first, the loss of tone of the auricular muscle and then on the top of this the excessive distension of the chambers by the ventricles forcing blood through the incompetent auriculo-ventricular valves before the arrival of the time for the auricular contraction. Mackenzie has pointed out that the ventricular inception of the rhythm is invariably associated with irregularity unless the action is very rapid, a fact that one may express otherwise by saying that it is always accompanied by a great increase of excitability and the development of frequent extrasystoles.

Certain of the phenomena associated with cardiac dilatation are secondary to the impaired working of the circulation—e.g., the dyspnœa, the dropsy, the congestion of the lungs and liver, &c., while others are more directly concerned with the heart itself, such as pain, the actual dilatation of the chambers, the rapid irregular action, and the assumption by the ventricles of the post of starter and controller of the cardiac rhythm. The subject of pain associated with disease of the heart has been fully dealt with by Head and Mackenzie and need not be entered on. The rapid and irregular action has usually been referred to the influence of the nervous system and much ink has been spilt in discussing whether it is due to loss of vagus control or to excitation of the accelerator nerves. There is no doubt that impulses can be conveyed to the heart by the nerves exciting or inhibiting cardiac contraction or influencing the functional activities of the cardiac muscle. Tonicity would as certainly be subject to these influences, either in a positive or a negative sense, as the other properties of the muscle fibres; and it is because of the nervous influence on tonicity that we meet with the remarkable instances of sudden dilatation of the heart, so well known to all clinicians, from emotional disturbance, pain, &c. Without, however, some permanent alteration in the central nervous system or permanent irritation to produce reflex phenomena, such nervous influences on the heart would be expected to be but temporary, the only evidence we have of a constant action of the nervous system on the heart being the tonic effect of the vagus in slowing the rhythm. In cases of chronic heart disease there is a permanent increase of rate and frequently a permanently irregular action, and yet we have no evidence of there being any organic lesion of the nervous system. On the face of it, therefore, the probable source of these alterations of function would be likely to be found in the heart itself, which is demonstrably changed.

We have seen that the main factor in the causation of dilatation of the heart is a depression of the tonicity of the muscle fibres, and yet dilatation is associated with a considerable increase in at least two of the other properties of the muscle, excitability and the rate of formation of the stimulus. It is possible that another property is also increased—viz., contractility—since the dilated heart has often to do more work than the normal one. The question of contractility is a complicated one owing to the influence of the increased tension and the increased rate, but still a real increase of contractility is not improbable. An alteration of conductivity is even more difficult to estimate, but there is evidence that with increase of tone in some cases this property is diminished, and therefore it is possible that it is increased with loss of tone. It has seemed to me that the whole of these phenomena, as well as certain other peculiarities of cardiac rhythm, may be directly due to the alteration of the muscle tone.

An alteration in any one of the properties of cardiac muscle will affect to some extent all the others, and this is even more likely to be true with alterations of tone than of any other function, since tone has a considerable resemblance to an actual contraction. A contraction destroys all the other properties and we would therefore expect tonicity to diminish these other properties either directly or by delaying their recovery after a contraction. On the other hand, diminution of tone should tend to augment the other properties or to hasten their recovery after a contraction. With lessened tone, therefore, we should expect an increased rate of production of the stimulus, increased excitability, heightened conductivity and contractility.

Gaskell writes: "It would not be unreasonable to expect that different parts of the heart would vary in their tonicity, just as they vary in their rhythmicity." There seems to be a general assumption that tone is greater in the ventricles than in the auricles, and considering the greater amount of work that the ventricles have to perform this assumption probably accords with the facts. The different appearance of the muscle fibres in different parts of the heart has been noticed by Gaskell, the most characteristic and best striated fibres being found in the ventricles, the least characteristic in the sinus venosus, the fibres that join auricles and ventricles, and the conus arteriosus. It is not unlikely that the special properties of heart muscle are present to the greatest extent in the most highly developed fibres, special structure and special function going together, this applying even more to the important property of tonicity than to the other properties of cardiac muscle. The greater relative tonicity of the ventricular muscle would keep the other functions in subjection, so that in ordinary circumstances the stimulating substance would be built up more slowly there, excitability would be less, as also would contractility and conductivity. The ultimate relations of these various properties to one another would naturally depend on the proportions in which they were originally present, which need not necessarily be the same all over the heart. Indeed, all theories of cardiac action presuppose that the properties of cardiac muscle are present in different proportions in different parts of the heart. Where tone is least developed the stimulating substance would be built up most rapidly, as at the sinus venosus, the auriculo-ventricular junction, and the conus arteriosus, places from which Gaskell has shown an intrinsic rhythm is particularly prone to start. With loss of tone there would be a general exaltation of the other functions which would especially affect the ventricles where these functions are the more highly developed. With increasing dilatation or loss of tone the sequence of events would be expected as follows: an increase in heart-rate, the occurrence of extrasystoles, at first auricular in origin but later arising from the ventricles, and at last the transference of the starting point of the cardiac contraction from the great veins to the ventricles. With the transference of the control of the rhythm to the ventricles, extrasystoles, and so great irregularity, would be conspicuous owing to the great increase of excitability except where the cardiac rhythm is very rapid. This sequence of events is exactly what we actually find in experience of dilating hearts. Contractility should be heightened, and I have pointed out that it probably is heightened in some cases, but changes in contractility and conductivity are difficult to judge owing to the marked influence on them of alterations in the cardiac rate. These functions may be, and indeed sometimes are, injuriously affected by the same cause that depresses tonicity.

Experimentally it has been shown that certain drugs increase tonicity until the heart is stopped in systole and, as would be expected from the above theory, these drugs diminish the rate of the heart. Similarly drugs that decrease tonicity, such as lactic acid, increase the rate. That digitalis increases tone has been shown experimentally; clinically we find that it diminishes dilatation, decreases the rate, and renders the heart less irregular (i.e., diminishes excitability), all of which actions would be expected from its influence on muscle tone. It is true that in some cases an irregularity appears after the administration of digitalis, as in the case recently reported by Fauconnet, where digitalis reduced the pulse from 120 per minute to 48, this infrequency being found by the sphygmogram to be due to the regular occurrence of an extrasystole unfelt by the finger after each normal beat, so that the heart was really beating at 96 per minute. Such an irregularity does not mean an increase of excitability from the digitalis but is merely a consequence of the reduction of rate allowing an opportunity for the occurrence of extrasystoles. This view is borne out by Hering's observations on the disappearance of a bigeminal pulse from the administration of atropine, in which he found that the heart only became regular when its rate was so increased that the normal impulse arrived as soon as, or sooner than, the regularly recurring extra stimulus which caused the bigeminal pulse; as the effect of the atropine wore off and the action became less frequent the bigeminal character returned. With digitalis, contractility and conductivity are usually favourably affected by the increased rest afforded by the diminished rate, this being more potent than the depressing effect of increased tonicity, but in certain circumstances they can be shown to be injured by digitalis.

It has been found that where the contractile power of the muscle is lowered in experiments with excised hearts a peculiar alternating type of cardiac rhythm is prone to set in where the heart is regular in time but the beats are alternately larger and smaller in size. Hoffmann demonstrated that with depressed contractility the beats are not only smaller but last a shorter time. Wenckebach explains the alternating action of the heart by the longer pause after such a small short contraction allowing the contractility to recover better, with the result that the next contraction is larger and lasts longer; the next pause is therefore shorter and is followed by a smaller and shorter contraction, which is succeeded by a longer pause and then a larger contraction, and so on. Depression of contractility results from a number of causes—e.g., action of water, vagus irritation, poisons, &c. Among the latter may be especially mentioned antiarin and digitalis, both of which have been shown to depress contractility and to induce an alternating action of the heart. For instance, Straub, working with antiarin, quickly induced an alternating action and ultimately before the heart stopped in systole the smaller beats disappeared, reducing the rate of the heart to half. Although excitability and conductivity were both also depressed, this halving of the frequency seems definitely to have been due to the damage done to the contractility. It is noticeable that in Straub's experiments the effect on the ventricles was more marked than on the auricles and on the auricles than on the veins, so that at one time the ventricles were beating at half the rate of the auricles and at another the auricles at half the rate of the veins. The ventricles, too, were first stopped by the drug and then the auricles, and, lastly, the veins. These remarkable results are explainable on the supposition that the tonicity is relatively greatest in the ventricles and that antiarin acts on the other functions of cardiac muscle through tonicity, but are difficult to account for on any other hypothesis An exactly similar alternating action of the heart has been described several times in human beings and it is probable in all, or nearly all, the cases, that this has resulted from the administration of digitalis and that contractility was already depressed before the exhibition of the drug.

The jugular pulse when present gives us, as Mackenzie has shown, a very accurate method of estimating the condition of conductivity. In ordinary circumstances the contraction takes a certain time to pass from auricle to ventricle, which can be estimated by the difference in time between the wave *a* and the wave *c* in Fig. 1. Of course, other factors help to cause this interval—viz, the systole of the auricles and the presphygmic period of the ventricular systole or that portion of it before the aortic valves open. These factors, however, occupy a constant time and so do not cause any variation in the *a*—*c* interval. Depression of conductivity will lengthen this interval and if extreme will prevent some beats passing to the ventricle. Where conductivity is already depressed the administration of digitalis may depress it further, leading to every other beat being dropped. Drugs, then, the main action of which is to increase tone have also the effect of decreasing the other properties of cardiac muscle, while diminution of tone is invariably associated with increased rate of production of the stimulus and with increased excitability and not improbably with increased contractility and conductivity. It is difficult, therefore, to avoid the conclusion that increase and decrease of tonicity stand here in causal relation to the diminution or augmentation of the other properties.

The relationship of tonicity to the transference of the rhythm to the ventricles stands on a different footing. The explanation of the transference which is put forward here requires certain assumptions. These assumptions are not improbable in themselves but further research is wanted on the subject. It must, however, be noticed that this hypothesis affords a plausible explanation for the selective action of digitalis and antiarin on different parts of the heart. Mackenzie has expressed the opinion that where the ventricles take on the inception of the cardiac rhythm the real place of origin of the contraction is in the fibres joining the auricles and ventricles. In support of this view he points to Gaskell's observation that when the sinus venosus has been prevented from starting the cardiac rhythm, as by vagus stimulation, the ventricle may take on a rhythm starting from the canalis auricularis. On my theory of cardiac action, where tonicity plays such an important rôle, the ventricular type of rhythm would be expected to start from the highly developed ventricular fibres. With some restoration of tone, and so recovery of the patient from the more urgent symptoms of heart failure, the inception of the rhythm would be expected to pass to the least highly developed fibres. Such would be the auriculo-ventricular fibres in cases where paralysis of the auricles prevents the normal auricular inception.

Upper Berkeley street, W.

KENDAL HOSPITAL.—A new hospital is being built at Kendal at a cost of over £12,000 and the trustees of the late Mr James Allen have just given £1000 towards it. In addition to this they have given £500 for the endowment of a "James Allen" cot.

A SERIES OF CASES TREATED BY THE INJECTION OF BACTERIAL VACCINES.

BY EDWARD TURTON, M D, B SC. VICT., M.D. LEEDS, M R.C.P. LOND.,

AND

ALFRED PARKIN, M.D., M.S. LOND, F R.C.S. ENG,
CONSULTING SURGEON TO THE VICTORIA HOSPITAL, HULL.

IN presenting this series of cases we assume knowledge on the part of our readers of the excellent work done by Sir A. E. Wright and his co-workers and also by Dr. W. Bulloch and Dr. G. T. Western at the London Hospital, to all of whom we are considerably indebted. With three exceptions the cases have all been treated in our private practices in which the difficulties are obviously greater than in hospital practice. Our object has been to ascertain what advantages are to be derived from this mode of treatment and by the application of applied bacteriology to both medicine and surgery. We have endeavoured by working together to benefit by mutual criticism and comparison of clinical signs, this cooperation has undoubtedly resulted in a great increase in the interest of the work and has reduced in some measure by such criticism, the faults of observation and errors of deduction. The opsonic estimations and bacteriological investigations have all been the work of one of us (E. T.) but the rest of the work has been done conjointly.

In recording these cases we have included all under regular and constant treatment by this method, irrespectively of the results obtained. Previously to treatment we have, whenever possible, ascertained the exact causal germ of the disease by microscopical and cultural investigations and have estimated the opsonic index of the patient for that particular germ. In the majority of instances we have found it necessary to isolate the exact strain of micro-organism and establish its causal relationship to the disease in each case. At first we were under the impression that all infections due to any micro-organism could be treated by a vaccine containing that morphological variety of organism—for instance, a staphylococcic infection by a vaccine made of any strain of staphylococci, on the assumption that all strains were more or less identical. Such a plan of treatment, however, did not give what we considered satisfactory results and further experience has shown us that the greatest success in this treatment is attained by the cultural separation of the exact strain of organism peculiar to the patient and by the preparation and use of a vaccine prepared from that organism. This has been done in nearly all our cases but obviously the procedure entails not only a great amount of work but also a certain bacterial knowledge. This plan seems at present inapplicable to tuberculous affections but considering the multitudinous clinical and pathological manifestations of tuberculous disease we think that ultimately some such differentiation of strain will have to be carried out in preparing a special tuberculin for each group of patients or possibly for each patient. So far the difficulties of obtaining a pure culture of the special strain of tubercle bacillus have prevented us from carrying out our investigations on these lines. To this cause we attribute our want of success in the treatment of some of the tuberculous bone affections—e g, Cases 3, 22, and 23—and to us one of the undoubted causes of failure seems to be the fact that Koch's new tuberculin (TR) as supplied has been used indiscriminately for multitudinous affections caused possibly by varying strains of the tubercle bacillus. If this were not the case how can it be explained that patients may have localised lupus or caries for years, possibly half a lifetime, without developing internal tubercle and that clinically tuberculous infections are classified as lung tubercle, brain tubercle, serous membrane tubercle, &c., each pursuing a more or less definite course and not necessarily leading one to the other.

In isolating the causal germ it soon became obvious that there might be more than one present, the tubercle bacillus, for example, being associated with staphylococci, pneumococci, &c. Tuberculous skin affections have almost necessarily a secondary affection of pus forming organisms, as was found in both cases of lupus here recorded. In Case 7 (lupus with extensive suppuration) the tuberculous opsonic index was 0·45, and the staphylococcic opsonic index 0·65, although this patient was not injected with any staphylococcic vaccine the staphylococcic opsonic index rose to normal and remained normal as soon as the tuberculous opsonic index arrived at, and was maintained above, the normal line, thus indicating that the staphylococcic infection was purely secondary, resulting from the presence of a suitable nidus. Similarly pulmonary tuberculous affections are subject to superimposed infection and the difficulty here is to estimate the amount of damage due to the secondary organisms. In Case 14 (chronic pulmonary tuberculosis) the pneumococcic opsonic index was 0·8 and a greater improvement was noticeable on the injection of a pneumococcic vaccine, and the raising of the pneumococcic opsonic index to 1·5.

In advanced cases of pulmonary tuberculosis the invading organisms may be multiple, consequently useful therapeutic measures may be difficult to apply; for instance, in Case 2 the staphylococcic opsonic index was found to be 1·25, indicating that she was at that time also fighting a staphylococcic invasion. As the result of staphylococcic injections the staphylococcic opsonic index was raised to 1·66 The ingrafting of other organisms on the tubercle bacillus is well illustrated by Case 9, in which after six weeks' drainage of a tuberculous kidney she was treated with tuberculin; again, six weeks later, a staphylococcus albus having been found in the discharge and the sinuses not healing, she was treated with a vaccine of this organism, which vaccine raised the staphylococcic opsonic index from 1·15 to 1·5. After these injections, combined with the tuberculin, healing became more rapid and finally complete.

The possibility of the association of the tubercle bacillus with the bacillus coli communis in intestinal conditions is illustrated by Case 25, in which an apparently tuberculous mass to the right of the umbilicus yielded slowly to tuberculin but much more rapidly to a combined injection of tuberculin and a vaccine of the bacillus coli. In support of this view the bacillus coli opsonic index was before injection 1·0; subsequently it reached 1·4 coincidently with the clinical improvement.

It is difficult to say in any one case how often the injections should be repeated, because acute infections differ very greatly from chronic ones. A bacillus coli infection may be fatal in a few days or even hours; acute general tuberculosis in a few weeks; on the other hand, a case of chronic pulmonary tuberculosis or furunculosis may drag on for years. The only safe guide seems to be to inject as soon as the index, when once raised, shows signs of falling We have found it advisable to inject a case of acute pulmonary tuberculosis at intervals of about five days with marked benefit, and a case of bacillus coli peritonitis even more frequently with gratifying success.

So far as we can judge each case is a law unto itself, both as to dosage and also as to frequency of repetition; the only guidance is obtained by frequent estimations of the opsonic index and a careful study of the opsonic chart Our plan has been to treat each case on its merits, usually beginning with a small dose, watching the behaviour of the index, and continuing this dose, increasing or diminishing it as the occasion seems to demand. In the more acute cases the negative phase seemed to be either entirely absent or of very short duration, the opsonic index taken after the first 24 hours showing a marked rise compared to the height on injection.

We have had no ill-effects from any injection, no abscesses, no rigors, and no rash, in a few cases only a feeling of malaise for about 24 hours

Prophylaxis—It seems to us that there is a distinct future for those cases apparently threatened with tuberculosis by environment, contiguity, and possibly heredity, by the injections of bacterial vaccines We have had one such case in a member of a family with marked tuberculous history; his sister at the time was under this treatment He had no physical signs but there were definite loss of weight, cough, and night sweats There were no tubercle bacilli in the sputum. The tuberculous opsonic index was 0·97, raised by injection to 1·54, with accompanying improvement in general health and increase of weight. We have had no experience of prophylactic injections against the bacillus coli, this appears seldom possible in the emergencies of private practice.

Failures.—We have failed to do any good in the following four cases.

CASE 1.—The patient, a male, aged 33 years, was seen with Dr. W. A. Bryant of Hull. He suffered from advanced pulmonary tuberculosis with right empyema; an operation was performed during which he nearly died. The tuberculous opsonic index three days after the operation was 0·87. He was injected three days later with $\frac{1}{1000}$th of a milligramme of tuberculin (TR) when the tuberculous opsonic index was 1·02. 24 hours later it was 0·71 and after 48 hours it was 1·46. *Death occurred 44 days after injection.* With our present knowledge we should hesitate to inject in a similar case.

CASE 2.—A female, aged 16 years. There was advanced pulmonary tuberculosis of four years' duration. There were a cavity at the left apex and consolidation of the remainder of that lung, with subsequent formation of empyema, for which operative measures were declined and consequently treatment was discontinued. The tuberculous opsonic index before treatment was 0·85 and two days later it was 1·04, the highest point reached under treatment being 1·6. With the formation of the empyema the tuberculous opsonic index fell to 0·93. Treatment was continued for ten weeks and the weight increased four pounds. The number of opsonic estimations being 19 and the number of injections seven. The case is now *in statu quo.*

CASE 3.—A male, aged 36 years. This was an almost hopeless case of hip and spinal disease dating from boyhood; there were multiple sinuses. The tuberculous opsonic index before treatment was 0·98 and the highest point reached under treatment was 1·7. The discharge from the sinuses contained staphylococcus pyogenes albus, the index for which was 1·19, rising after injections to 1·65. Some improvement took place, with a gain in weight of four pounds, but later there was a relapse, with the formation of an intrapelvic abscess. The duration of treatment was 16 weeks. The tuberculin injections numbered 11 and the staphylococcic injections seven, while the opsonic estimations were 34. The case is now practically *in statu quo.*

CASE 4.—A female, aged six years, under the care of Dr. J. Savege of Hull. This was a case of tuberculous meningitis, following on gland of the neck, of the duration of one week. The tuberculous opsonic index was 1·19. The patient was injected with $\frac{1}{1000}$th of a milligramme of tuberculin (TR). There were some diminution of headache and slight improvement in the mental condition, followed by convulsions and sudden death five days later. Curiously, the gland disappeared before death.

Bacillus coli infections:—

CASE 5.—A male, aged 48 years, under the care of Dr. T. de Carle Jackson of Hull had been ill for three weeks with acute abdominal pain at intervals, sickness and rigors, swelling in the epigastrium, and gradual loss of flesh. No plasmodia malariæ were found. The patient was operated upon under the impression that he had some pancreatic affection; the pancreas was found to be normal but two large gall-stones were removed from the gall-bladder. There was no improvement after operation; the rigors continued and there was a gradual loss of all subcutaneous fat. There was no abdominal distension but the patient appeared seriously septic without actual pus formation. He was sent home to die. The gall-bladder secretion was examined and a pure culture of bacillus coli communis was obtained. No blood culture was made. The bacillus coli opsonic index before injection was 0·93. The injection of 500,000,000 of bacillus coli vaccine produced improvement and raised the index to 1·14. Three days later the last rigor took place. Two subsequent injections were given and the bacillus coli opsonic index rose to 1·68. In four weeks the patient was quite well. (Fig. 1.)

CASE 6.—A male, aged 28 years, under the care of Dr. Bryant. The patient had a sudden attack of abdominal pain followed by development of acute general peritonitis. He was operated upon on the fourth day, the cause of the peritonitis being obscure. An abscess in the pelvis was simply drained, no attempt being made to wash out the peritoneal cavity; in fact, it was impossible on account of adhesions. From a culture of the pus the bacillus coli communis was obtained and a vaccine was made. The index for this organism was 0·8, 48 hours after operation; the opsonic index of the blood taken at the time of the operation, for a laboratory culture of bacillus coli, was 1·13. An injection of 500,000,000 of his own vaccine was made three days after the operation with some improvement in the condition of the patient and a rise of the index to 1·22. Four subsequent injections were made and the highest index reached was 1·79. (Fig. 2.) There was a noticeable drop of the index on the thirteenth day after the operation; this was found to be due to retained pus in the pelvis; with the evacuation of the pus the index rose in 24 hours to 1·17. The patient has now no abdominal symptoms but there is decided thickening in the region of the appendix. The wound is almost healed (five weeks after operation).

These are the only cases of bacillus coli infection which we have treated, but they seem to us worthy of record, as we feel certain that but for the injection of the vaccine they would both have died. Case 5 seems to us to be an example of bacillus coli septicæmia.

Tuberculous Infections—1. Tuberculosis of the skin.

CASE 7.—The patient, a male, aged ten years, was sent by Dr. E. Harrison of Hull. There was extensive lupus of the face and the limbs (in all 34 separate patches) with partial destruction of one ear. Tubercle bacilli were found in the scrapings. All previous treatment had been useless in arresting the disease. The tuberculous opsonic index before treatment was 0·45 and the highest point reached during treatment was 1·75. There was a secondary infection of staphylococcus pyogenes aureus, the opsonic index of which rose from 0·65 to normal coincidently with the improvement due to tuberculin injections. All the patches on the face are healed and those on the limbs are nearly cured. The duration of treatment has been 28 weeks and the patient is still under treatment. Number of tuberculin injections 20; tuberculous opsonic estimations, 40; and staphylococcic estimations, 5.

CASE 8.—The patient, a male, aged 10 years, was sent by Dr. A. McC. Erskine of Goole. There was extensive lupus of eight years' duration. The right ear was nearly destroyed and the nose partially so. There was extensive ulceration of the palate, the upper lip, and the cheeks. There were a large patch six inches in circumference on the back of the right thigh and a large patch on the left foot extending over the great and second toes. Tubercle bacilli were found. Several previous operations more or less successful had been followed by fresh infection. The tuberculous opsonic index, which before treatment had been 0·9, was raised to a maximum of 1·7 under treatment. The right ear and the left foot healed, the patch on the thigh nearly healed, and the nose and palate rapidly improved. There was no fresh infection. Number of tuberculin injections, 13; opsonic estimations, 16; duration of treatment, 18 weeks. The case is still under treatment.

Both these cases of lupus seem to us to have improved much more rapidly than we should have expected under any other form of treatment; the rapid improvement in general health after a few injections was most marked. In each case the previous treatment had been of a varied character.

2. *Tuberculous disease of the kidneys.*

CASE 9.—A female, aged 21 years. There was a history of pyuria of two years' duration. 13 years ago the patient had undergone excision of the right hip-joint (performed by one of us, A. P.) for tuberculous disease. The right kidney, which was much enlarged, was painful. There was a hectic temperature. The kidney was opened vertically and many large caseous foci were scraped out. The kidney was drained. Tubercle bacilli were discovered in the urine. Two months later, as the general condition of the patient was not satisfactory, the tuberculin treatment was commenced. The tuberculous opsonic index was 0·9; it was raised to a maximum of 1·8 under treatment. The staphylococcus pyogenes albus was found in the discharge from the sinus and the index for this organism was raised from normal to 1·4. There followed marked improvement in the general health, the closing of the sinus, and an increase in weight of seven pounds. The duration of treatment was 16 weeks. Number of tuberculin injections, 10; staphylococcic injections, 5; tuberculous opsonic estimations, 28; and staphylococcic estimations, 7.

CASE 10.—A male, aged 15 years. There was a history of wasting and pyuria extending over two and a half years. There were tubercle bacilli in the urine. The right kidney was enlarged and tender. The tuberculous opsonic index before treatment was 1·13; it was raised by injections to a maximum of 1·83. Number of tuberculin injections, 7; and opsonic estimations, 10. The case has been under treatment for ten weeks and is still under treatment. The kidney is now scarcely palpable, there is only a trace of pus in the urine, and tubercle bacilli are very difficult to find. A marked improvement in the general health has taken place and an increase in weight of three and a half pounds.

In Case 9 the disease was so extensive that a nephrectomy

FIG. 1.

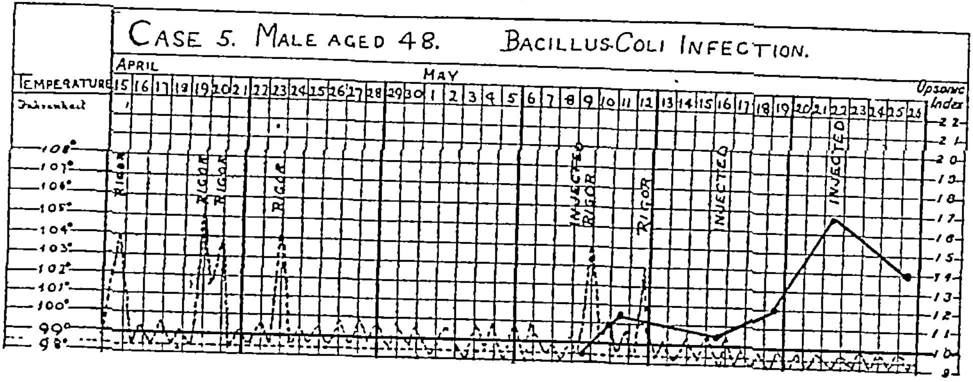


FIG. 2.

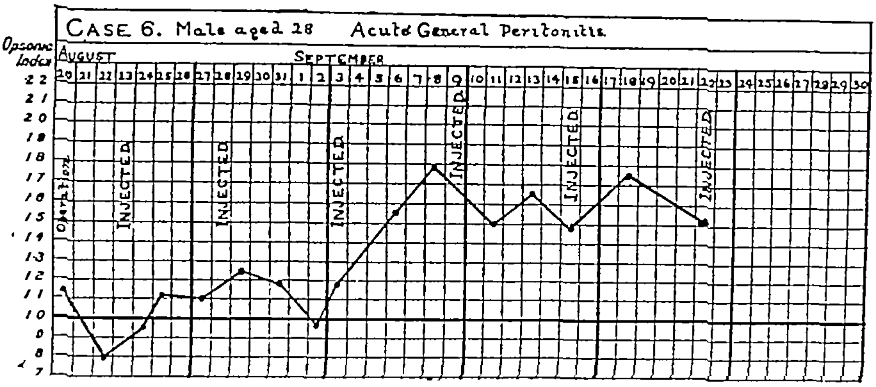


FIG. 3.

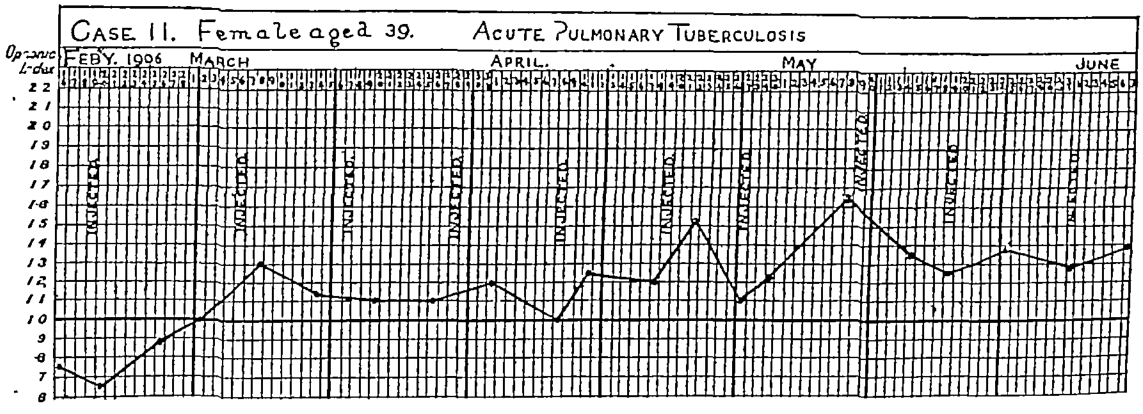
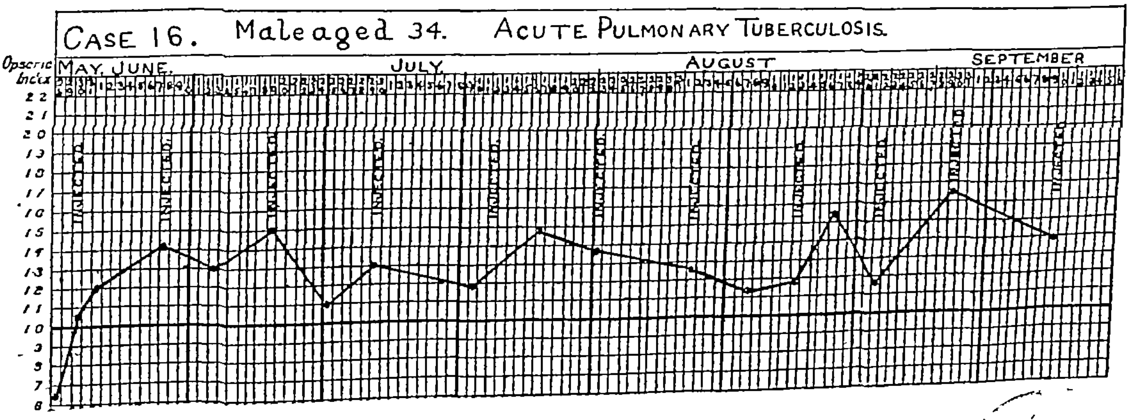


FIG. 4.



seemed impossible; in Case 10 it has not so far been required on account of the success of this treatment.

3. *Pulmonary tuberculosis.*

CASE 11.—The patient was a female, aged 39 years, under the care of Dr. A. T. Brand of Driffield. There was a history of cough of six months' duration, with failing health and loss of weight. The patient was confined to bed and had a hectic temperature. There were signs of consolidation at the right apex. Tubercle bacilli were found in the sputum. The tuberculous opsonic index, which before treatment was 0·75, was raised to a maximum of 1·63. The number of the tuberculin injections was 10 and the opsonic estimations were 22. Duration of treatment four months. There is now no cough or expectoration and there is an increase in weight of 19 pounds. The physical signs are negative. The patient has resumed her ordinary duties and considers herself cured. (Fig. 3.)

CASE 12.—The patient, a male, aged 27 years, was under the care of Dr. Angus Fairweather of Pocklington, had had failing health and had lost nine pounds in weight during the previous six months. There were hæmorrhagic sputum, dulness and râles at the right apex, and a caseous gland with a sinus at the right side of the neck. The tuberculous opsonic index before treatment was 0·82; it was raised by injection to a maximum of 1·55. The staphylococcic index was 1. Number of tuberculin injections, 5; and opsonic estimations, 11. Duration of treatment seven weeks. The patient gained in weight 13 pounds. The gland disappeared, the sinus healed, and the physical signs became negative. The patient says that he has never felt in better health.

CASE 13.—The patient, a male, aged 44 years, was seen with Dr. J. B. Close of Hull. There was a history of cough and blood-stained sputum extending over six months. The loss in weight had been nine pounds. Tubercle bacilli were found in the sputum. On two occasions there had been severe hæmoptysis. There were signs of extensive consolidation at the left apex and in a less degree at the right. The tuberculous opsonic index before treatment was 0·62; the highest point reached under treatment was 1·74. Number of tuberculin injections, 13; and opsonic estimations, 19. Duration of treatment six months. The abnormal physical signs have disappeared and tubercle bacilli have not been found in the sputum in the last six examinations. There has been an increase in weight of 16½ pounds and the patient has been at work for the last three months.

CASE 14.—The patient, a male, aged 41 years, was sent by Dr. Harrison. There had been long-standing pulmonary tuberculosis with recrudescence during the last seven months, during which the loss of weight had been four pounds. There were signs of consolidation and of a cavity at the left apex. Tubercle bacilli were found in the sputum. The tuberculous opsonic index, which before treatment had been 1·39 and 1·37, rose under treatment to 1·9. The pneumococcic opsonic index was 0·8, rising to 1·4 after injections of a pneumococcic vaccine. Tuberculin injections, 14; pneumococcic injections, four; and opsonic estimations, 26. Duration of treatment five months. The patient's weight is stationary at 11 stones. Improvement is shown in the general health but there are still a few râles at the left apex. No tubercle bacilli have been found in the last six examinations of the sputum.

CASE 15.—The patient, a male, aged 31 years, was sent by Mr. E. H. Howlett with a history of cough and loss of weight during the preceding 12 months. Improvement was made under three months' sanatorium treatment but later a relapse took place. There were signs of consolidation of the left upper lobe. Tubercle bacilli were found in the sputum. The tuberculous opsonic index taken on two occasions before treatment had been 0·84 and 0·85; it was raised by injection to 1·64 and has been maintained above the normal for the past three months. Number of tuberculin injections, 21; and opsonic estimations, 44. The weight has increased from 13 stones 10 pounds to 14 stones 4 pounds during six months' treatment and is now stationary. There are still a few râles at the left apex and occasionally tubercle bacilli are discovered in the sputum. The patient is still under treatment.

CASE 16.—The patient, a male, aged 34 years, was sent by Dr. F. N. Stewart. There was a history of cough and expectoration which had lasted for nine months. There had been failing health and loss of weight. There was consolidation of the left apex and tubercle bacilli were found in the sputum. The tuberculous opsonic index before injection had been 0·65 and 1·05; it was raised by injection to a maximum of 1·64. This index has not fallen below 1·15 since the treatment was commenced. Number of tuberculin injections, 13; and opsonic estimations, 18. Duration of treatment 15 weeks. There is still some dulness at the left apex; tubular breathing is no longer heard but there are occasional râles. There has been a gain in weight of eleven and a half pounds. Active disease has apparently been arrested but there are still tubercle bacilli in the sputum. (Fig. 4.)

The results of these cases of pulmonary tuberculosis are distinctly gratifying, more especially as there was no other concurrent treatment and as many of the patients were able to continue their usual avocations throughout. It appears that the more chronic the case, the more likely is the tuberculous opsonic index at the initial examinations to be below normal, whereas in the acute cases the opsonic index is either high or low, representing fluctuations in immunising power. In the acute cases it seems more difficult to maintain a constant high level of opsonic power, on account of the interference by reaction to the toxins periodically absorbed into the blood stream. Both acute and chronic cases have benefited by the treatment, but it is obviously difficult to say in any one case when an absolute cure has been attained.

4. *Tuberculous glands.*

CASE 17.—The patient was a male, aged six years. There were multiple enlarged glands on both sides of the neck, recurrent after operation ten months before. This was practically an old case of scrofula. It was pronounced to be inoperable. Several of the glands were fluctuating; these were simply opened (without scraping) during the course of treatment. The tuberculous opsonic index before injection was 1; the highest point reached under treatment was 1·4. Number of tuberculin injections 7; and opsonic estimations, 11. Duration of treatment 13 weeks. All the glands have disappeared and all the wounds have healed. The general health is greatly improved.

CASE 18.—The patient, a female, aged 17 years, was sent by Dr. H. D. Johns of Hornsea. There was a large breaking-down mass of glands of the size of an orange at the right angle of the jaw. She refused operation. Aspiration was resorted to and tubercle bacilli were found in the pus. The tuberculous opsonic index before treatment was 1·1 and the opsonic index of the serum from the pus was 0·7. A drainage-tube was inserted under ethyl chloride. The opsonic index rose under treatment to 1·65. Number of tuberculin injections, 12; and opsonic estimations, 13. Duration of treatment 18 weeks. A small lump of the size of a hazel nut is still present; the sinus is closed; and the general health is much improved.

CASE 19.—The patient was a female, aged 43 years, who was sent by Dr. W. Murray of Hessle. There was a history of enlarged glands of the neck and the axilla of four years' duration. Two extensive operations involving partial removal of the right pectoral muscle had been performed. There was recurrence on both sides of the neck and the case was pronounced to be inoperable. There were œdema of the right arm down to the fingers, multiple matted glands on both sides of the neck, lymphatic enlargement of the left axilla, an enlarged spleen, and internal to this there was a mass of glands in front of the spine. The tuberculous opsonic index before treatment was 0·95; the highest point reached under injection was 1·5. Number of tuberculin injections, 15; and opsonic estimations, 16. Duration of treatment five months. There are four or five small isolated glands in the left posterior triangle, which could now be easily removed, and a hard gland in the left axilla; the rest have disappeared. The spleen and the mass over the spine are no longer palpable but there is still some œdema of the arm and forearm. The general health is excellent. The case is still under treatment.

CASE 20.—A female, aged four years, under the care of Dr. C. H. Milburn, had multiple glands on both sides of the neck with much matting together for 18 months. The largest gland on the left side was of the size of a walnut. The tuberculous opsonic index before treatment was 0·9 and 1·13; the highest point reached after injections was 1·59. Number of tuberculin injections, 8; and opsonic estimations, 12. The largest gland broke down and had to be incised. Duration of treatment, 13 weeks. The glands on both sides have almost disappeared and the sinus has healed.

CASE 21.—A female, aged 21 years, had had for five months a mass of glands in the right posterior triangle with considerable matting together and extending beneath the [illegible] and [illegible]. The tuberculous opsonic index before treatment was 0·78 and the highest point reached after injection was 1·45. Number of tuberculin injections, 7; and opsonic estimations, 10. The case is still under treatment. The glands are much more discrete, smaller, and harder.

Tuberculous glands are obviously amenable to this treatment, but whether their complete absorption when once caseous is possible seems doubtful. The periadenitis first subsides, then the capsule of the gland becomes thinner, but the caseous centre remains and may require removal. We have proved this by removing or incising glands at various stages of the treatment purely for the purposes of this investigation. Case 21 suggests the advantage of this treatment for tuberculous mediastinal and abdominal glands otherwise inaccessible.

5. *Tuberculous bone disease.*

Case 22.—The patient, a male, aged 46 years, was under the care of Dr. J. J. Coleman of Bridlington. There had been caries of the fourth lumbar vertebra of one and a half years' duration, the first symptoms being very obscure. Subsequently there was development of abscesses in the right loin, the right iliac region, and the left loin. Treatment by tuberculin commenced eight months after the last operation. The tuberculous opsonic index before injection was 0·71; it was raised under treatment to a maximum of 1·64. Number of tuberculin injections, 13; and opsonic estimations, 24. The staphylococcus pyogenes albus was cultivated from the pus; the opsonic index for this organism was 1·15 and it was raised by injection to 1·41. Duration of treatment six months. The patient has much improved in general health and appearance; two sinuses have healed and there is now very little discharge from the third.

Case 23.—A male, aged 11 years. This was a case of old laminectomy for cervical caries and paraplegia five years before. The result had been eminently satisfactory, but the patient had a sinus on the right side of the neck in the posterior triangle. Treatment was directed to the cure of the sinus. The tuberculous opsonic index before injection was 1·1; the highest point reached under treatment was 1·6. Number of tuberculin injections, 5; and opsonic estimations, 12. The sinus is *in statu quo*, but the general health has much improved.

Case 24.—The patient, a male, aged 22 years, was sent by Dr. Harrison. He suffered from tuberculous disease of the right elbow. The first operation had been performed 16 years ago and the case had been treated by excision two and a half years ago. An abscess was opened on March 20th and tuberculin treatment was commenced one month later. There was great thickening round the elbow-joint and a sinus which was almost closed. The tuberculous opsonic index, which before treatment was 0·9, rose after injections to 1·65. Number of tuberculin injections, 12; and opsonic estimations, 21. The sinus has healed completely, all thickening around the elbow has disappeared, and the general health is excellent. The case was under treatment for 18 weeks.

6. *Intestinal tuberculosis.*

Case 25.—A male, aged 27 years, sent by Dr. G. Briggs, had had recurrent attacks of colic for 18 months, with the gradual formation of a mass in the right iliac fossa. He was operated upon in March, 1906, and the appendix was found to be healthy, the mass being thought to be tuberculous, and the abdomen was closed. Opsonic treatment was commenced five months later, the mass then being as large as a duck's egg. The tuberculous opsonic index taken on two occasions had been 0·96 and 0·98; this was raised by injection to a maximum of 1·7. The bacillus coli opsonic index five weeks later was 0·7 and a vaccine of this organism raised the index to 1·4 with much more rapid improvement. Number of tuberculin injections, 13; bacillus coli injections, 8; and opsonic estimations, 29. The case is still under treatment. The mass is about one-third of its former size and is much more moveable. Attacks of pain are experienced at very rare intervals and then they are only slight. The patient has returned to his work.

Case 26.—The patient, a male, aged 18 years, was sent by Dr. Harrison. An appendicular abscess had been opened

Fig. 5.

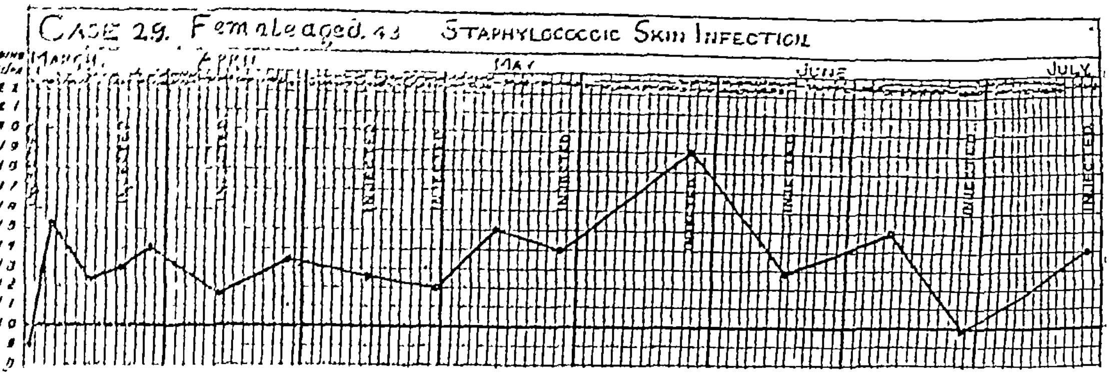
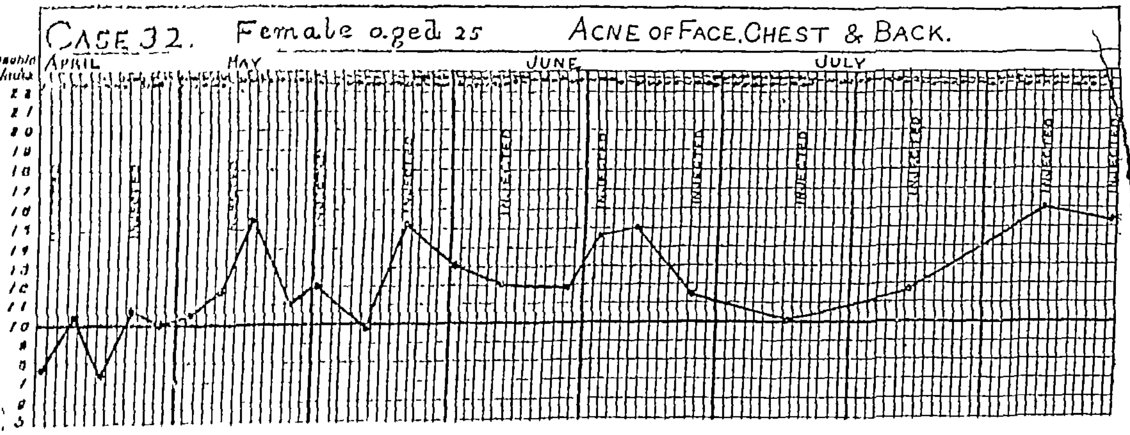


Fig. 6.



and drained 11 months ago; a sinus persisted and a fæcal fistula formed. Seven months later there were acute epigastric pain, abdominal distension, and rise of temperature. Diaphragmatic pleurisy was diagnosed. Four months later there was more epigastric pain and the diaphragm was almost fixed. There were adhesions between the stomach, the spleen, and the diaphragm, which were separated by operation, and a fæcal fistula which passed down to the appendix was closed. Subsequently there was a daily rise of temperature to 103° F., with rigors. There were suspicious physical signs in the chest but no tubercle bacilli were found in the scanty sputum. The condition was desperate and was thought to be tuberculous. The tuberculous opsonic index taken on two occasions was 1·27 and 1·31. The highest point reached after injection was 1·63. Number of tuberculin injections, 12; and opsonic estimations, 23. Duration of treatment five months. Except for very occasional slight diaphragmatic pain, the patient is now quite well and at work. There has been an increase in weight of 23 pounds.

The patients in the last two cases were in a desperate condition when the treatment was commenced and the success attained is very gratifying.

Staphylococcic affections.

CASE 27.—A surgeon, aged 41 years, had had frequent infections on the hands, the wrists, and once on the knee by inoculation of hair follicles without any open wound. These inoculations were followed by various septic conditions, on two occasions endangering life and surgical work had almost to be relinquished. Susceptibility to staphylococcus invasion was established and at the suggestion of Sir A. E. Wright the corresponding vaccine was injected. By means of regular injections the index has been maintained above normal (1·2 to 1·3) for some months. The patient reports that he has had no serious infection for the last nine months, is in excellent health although in constant work, and is able to continue his surgical work without fear of being laid up.

CASE 28.—A medical man, aged 38 years, had a carbuncle on the left buttock for ten days, followed by an inflamed papule beneath the left ear. The staphylococcic opsonic index before treatment was 0·8; after the first injection it rose to 1·42. The carbuncle began to clear up and the papule below the ear, which had suppurated, became quite localised, the surrounding cellulitis becoming circumscribed. The opsonic index fell to 0·9 and there was a rapid increase in the cellulitis below the ear with formation of a slough. After two more injections this cellulitis became circumscribed. A third infection arose over the second dorsal spine but the opsonic index being now kept above 1·2 this infection did not cause the least cellulitis, nor was it at all painful but aborted in about three or four days. The patient has since been quite well. Number of staphylococcic injections, 5; and opsonic estimations, 12. The case was under treatment for five weeks.

CASE 29.—A female, aged 43 years, had been under ordinary treatment for five months for multiple recurring papules, becoming pustular with subsequent formation of granulomatous patches on the wrists, the forearms, and the front of the legs. The patches on the legs at one time formed large plaques several inches in circumference. The patient was treated for scabies and syphilis without benefit. All other treatment was unavailing. A staphylococcus pyogenes albus was isolated and the staphylococcic opsonic index was found to be 0·9; this was raised by injections to 1·9. Number of injections given, 14; and opsonic estimations, 12. Duration of treatment, three months. All patches are cured but if there is any recurrence a single injection clears it up. (Fig. 5.)

The result of the treatment in this case of staphylococcic skin infection suggests to us that there is room for a modernised system of nomenclature of skin diseases, one division of which would contain the diseases due to micro-organisms. The present system of differentiation largely by means of the discoverer's name is so chaotic as to be hopeless.

CASE 30.—The patient, a male, aged 39 years, had had sycosis of the whole of the beard of six months' duration. Various forms of medical treatment were tried with very slight benefit. Staphylococcus pyogenes aureus was cultivated from pus. Staphylococcic opsonic index before treatment, 0·9; highest point reached as the result of injection, 1·53. Number of injections, 12; opsonic estimations, 11. Duration of treatment four months. The patient is now cured, but we admit the possibility of a re-infection.

The result of this form of treatment in such cases contrasts very favourably with that obtained by other means; it leaves no scar as frequently happens after treatment by the x rays.

CASE 31.—The patient, a female, aged 44 years, had had pustular eruption on the nose, cheeks, and chin of many years' duration. All previous treatment had been of little avail. Staphylococcus pyogenes albus was cultivated from pus, the index for which organism was 1·07 before treatment. The index was raised as the result of treatment to 1·46. Number of injections, 10; and opsonic estimations, 9. Duration of treatment 16 weeks. There is still some erythema of the affected parts but there are no more pustules.

CASE 32.—The patient, a female, aged 25 years, was sent by Dr. Stewart. She had very severe and extensive pustular acne of the face, neck, chest, and back of 15 years' duration. All previous treatment had been ineffectual. Staphylococcus pyogenes albus was isolated from the pus. The staphylococcic opsonic index before treatment, 0·77; highest point reached under treatment, 1·64. Number of staphylococcic injections, 14; and opsonic estimations, 21. Duration of treatment 22 weeks. The chest and back are clear of pustules, but still a few pustules form on the face though in gradually diminishing numbers. It is interesting to note that this patient was treated with a stock vaccine made of various cultures of staphylococci with but little benefit and it was only after she was treated with a vaccine made from a culture of her own particular organism that real improvement began. (Fig. 6.)

CASE 33.—The patient, a male, aged 23 years, was a patient under the care of Dr. Watson of Cottingham. There had been pustular acne of the face and back of seven years' duration, rendering shaving impossible. The staphylococcic index before treatment was 0·83, rising after injection to a maximum of 1·6. Number of injections given, 10; and opsonic estimations, 11. Duration of treatment 13 weeks. The patient is now completely cured. It is interesting to note that the patient had patches of psoriasis on both elbows and knees which were unaffected by the treatment.

CASE 34.—The patient was a male, aged 26 years. An estimation of the staphylococcic opsonic index was taken with others for experimental purposes and was found to be 0·73. At the time it was stated that he was susceptible to staphylococcic infection. Just a month later he presented himself with several large pustules on the face. His staphylococcic opsonic index was then 0·86. By means of injections the index was raised to 1·38, with rapid disappearance of the pustules and marked improvement in general health. A subsequent slight recurrence promptly yielded to the same treatment.

General remarks on the series of cases.—On the whole we are extremely pleased with the results we have obtained by this mode of treatment. It necessarily entails a very great amount of work and expenditure of time by the bacteriologist but this results in the obtaining of information of the greatest value to the physician or surgeon actually in charge of the patient. We have not used the injections in any haphazard sort of way, but only after careful estimation of the result of each injection at the beginning of the treatment. Later, when we have seen from a study of the opsonic chart how long the result of each injection lasts—what we might term the periodicity or opsonic wave—then the estimations can be made less frequently and the injections continued with certainty.

The amount of benefit derived from the treatment has varied in each case and we do not claim to have cured every patient. It is difficult to generalise in so many distinct and widely differing affections. Broadly speaking, acute cases are the more difficult to cure, because there may not be time enough to raise the opsonic power to such a degree as to influence the course of the disease; and at present we do not know much about the proper dosage necessary to do the greatest amount of good without doing evil—i.e., producing a dangerous negative phase. Nor do we profess to be able to cure a case of 15 years chronicity in a like number of weeks.

We think there is a great future for this treatment, if properly applied, for which great honour is due to Sir A. E. Wright. Our success, particularly in the two cases of bacillus coli communis infection, supports our opinion that this mode of treatment is capable of great expansion to other bacterial diseases and we hope to have an opportunity in the future of reporting further results.

It is obviously impossible to reproduce the charts we have prepared of every case; we have selected what appeared to be the most interesting.

THE DETECTION OF SUGAR IN URINE AND ITS SIGNIFICANCE IN CONNEXION WITH LIFE ASSURANCE.

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(From the Laboratories of the Middlesex Hospital.)

(Concluded from p. 1064.)

(2) *Creatine* ($C_4H_9N_3O_2$).—A set of experiments were carried out with creatine dissolved in distilled water similar to those with creatinine. Folin[1] has recently proved that creatine may be present in quantity in normal urine. 0·232 gramme of creatine was dissolved in 20 cubic centimetres of distilled water = 11·6 milligrammes of creatine per cubic centimetre. This weight was chosen as being equivalent chemically to 10 milligrammes of creatinine per cubic centimetre as used in previous experiments.

TABLE XVI.

(*a*) 11·6 milligrammes of creatine per cubic centimetre.

Percentage of grape sugar.	Aqueous solution; phenomena observed.
None present.	No apparent change, but on boiling for a few minutes the solution turned light blue. On standing for a few days reversion to original colour took place.
·01	No apparent change. On boiling for a few minutes the solution turned green.
0·25	A green precipitate started forming in 35 seconds. Turned yellow on standing.
0·5	A green precipitate started forming in 10 seconds. Turned red in a few seconds.

(*b*) 5·8 milligrammes of creatine per cubic centimetre = 5 milligrammes of creatinine per cubic centimetre.

None present.	No apparent reaction. The solution remained blue.
0·1	Slowly turned light blue and in two minutes a faint bluish-green precipitate formed, which was distinct in four minutes.
0·25	In ten seconds a thick precipitate formed rapidly.
0·5	In two seconds a red precipitate formed rapidly.

(*c*) 2·9 milligrammes of creatine per cubic centimetre = 2·5 milligrammes of creatinine per cubic centimetre.

None present.	No apparent reaction. The solution remained blue.
0·1	A faint opalescence in one and a half minutes, which steadily increased; green turbidity in two minutes. A bright green precipitate on standing.
0·25	In five seconds a yellow precipitate came down, which rapidly turned red.
0·5	In one and a half seconds a red precipitate formed.

Comparing the above results with those obtained with the corresponding weights of creatinine, as recorded in Tables XIV., XIV. A, and XIV. B, it is readily seen that the inhibiting effect of creatine is much less than is that of creatinine. 2·5 milligrammes of creatinine per cubic centimetre prevent precipitation when 0·1 per cent. of grape sugar is added, whereas the equivalent quantity of creatine—2·9 milligrammes per cubic centimetre—does not do so. The other values correspond. When a precipitate forms with creatine present the time required is usually considerably less than when the corresponding quantity of creatinine is the inhibiting factor.

A few experiments were next carried out to see whether a mixture of creatinine with creatine would behave exactly as one would expect from the results given in Tables XIV. and XV., or whether they would influence each other in any way.

TABLE XVII.

Percentage of sugar.	Aqueous solution containing 5 milligrammes of creatinine and 5·8 milligrammes of creatine per cubic centimetre. Result of boiling with an equal volume of Fehling's solution.
0·25	Turned light blue and then green and in five minutes a faint green precipitate came down.
0·5	In 30 seconds a green precipitate separated, which changed to yellow.

TABLE XVII. A.

Percentage of sugar.	Aqueous solution containing 2·5 milligrammes of creatinine and 2·9 milligrammes of creatine per cubic centimetre. Result of boiling with an equal volume of Fehling's solution.
0·1	No precipitate in four hours.
0·25	In 30 seconds a green precipitate began to come down, which gradually changed to yellow.

The above results indicate, as was to be expected from the preceding experiments as recorded in Tables XIV. and XV., that creatinine is the more important retarding factor of the two; in fact, the results are very similar to those of Tables XIV. A. and XIV. B.

(3) *Uric acid* ($C_5H_4N_4O_3$) *and urates.*—Since, according to the late Sir W. Roberts,[2] the urates present in normal urine consist entirely of quadriurates of sodium, potassium, and ammonium, experiments were chiefly carried out with ammonium quadriurate and sodium urate, but a few comparison experiments were also made with uric acid.

Preliminary experiments.—1. (*a*) Water was saturated with ammonium quadriurate: (1) at 15°, (2) at 40°, and (3) at 60° C., by digesting for over four hours at the temperatures named. In each case on boiling two cubic centimetres with two cubic centimetres of Fehling's solution a slight red precipitate formed in a few minutes. (*b*) Urine (specific gravity 1014) was saturated with ammonium quadriurate by digesting for four hours: (1) at 40° and (2) at 60° C. On boiling two cubic centimetres with two cubic centimetres of Fehling's solution no red precipitate formed, but after standing for some time a white precipitate, which might have been cuprous urate or phosphates, settled.

2. An analogous series of experiments carried out with sodium urate solution and with urine saturated with sodium urate at 15°, 40°, and 60° C. gave similar results, a red precipitate forming in less than three minutes with the aqueous solution, and no precipitate forming with the urine. The precipitates from the aqueous solution in this case formed more readily than in the case of the similar solutions containing ammonium quadriurate.

The above results, which agree with those of MacLean,[3] might be due either to the quantity of urate in aqueous solution being much greater than that present in urine (Roberts emphasises the comparative insolubility of urates, when sodium salts like the chloride are present) or to the creatinine, &c., exerting an inhibiting influence, or to both these factors.

In order to determine whether the quantity in aqueous solution was much greater than that present in urine, a few quantitative determinations of uric acid in moderately concentrated samples of urine (specific gravity 1025) were carried out by the Fokker-Salkowski process as modified by Hopkins with the following results:—

TABLE XVIII.

Temperature of saturation (Centigrade).	Nature of solution.	Weight per 1000 cubic centimetres calculated as uric acid.
14°	Sodium urate in distilled water.	0·9 gramme.
40°	Ditto.	1·6 grammes.
14°	Sodium urate in urine.	0·9 gramme.
40°	Ditto.	1·05 grammes.
14°	Ammonium quadriurate in distilled water.	0·49 gramme.*
40°	Ditto.	0·82 " *
14°	Ammonium quadriurate in urine.	0·85 "
40°	Ditto.	1·0 "

* Hydrolysed to some extent presumably.

The above values show that the quantities present should, from the indications of the preliminary experiments above, be quite sufficient to cause a precipitate to form, but that there must be inhibiting substances which prevent precipitation. The following experiments show that creatinine exerts an important inhibiting effect as regards prevention of precipitation of cuprous oxide from Fehling's solution by uric acid.

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[1] Zeitschrift für Physiologische Chemie, 1904, Band xli., pp. 223–242.

[2] Allbutt's System of Medicine, vol. iii.

[3] Biochemical Journal, 1906, p. 3.

TABLE XIX.

Temperature of saturation (Centigrade).	Substance dissolved in distilled water.	Weight of creatinine added.	Result.
15°	Sodium urate.	3 mgm. per c.c.	The solution turned dark green, but no precipitate formed.
15°	Ammonium quadriurate.	1 ,, ,,	No precipitate.
40°	Sodium urate.	1 ,, ,,	A faint white precipitate after boiling (cuprous urate?)*
40°	Ammonium quadriurate.	1 ,, ,,	No precipitate.*
50°	Sodium urate.	1 ,, ,,	No precipitate. A faint white precipitate on standing
50°	Ammonium quadriurate.	1 ,, ,,	No precipitate.

* After boiling for a few minutes a green precipitate separated, which turned yellow on standing.

Uric acid and creatine.—Creatine also inhibits reduction of Fehling' solution by uric acid as the following results show.

TABLE XX.

Temperature of saturation (Centigrade)	Nature of solution.	Weight of creatinine added.	Result after boiling with equal volume of Fehling's solution.
40°	Sodium urate	1 mgm. per c.c.	White precipitate.
40°	Ammonium quadriurate.	1 ,, ,,	No precipitate
50°	Sodium urate.	3 ,, ,,	Green precipitate, changing to yellow.
50°	Ammonium quadriurate.	3 ,, ,,	No precipitate.

Uric acid and grape sugar.—Experiments showed that these substances did not seem materially to affect each other. A red precipitate was invariably obtained with mixtures or separately on boiling with Fehling's solution.

(4) *Mucin.*—Various experiments with mucin were next carried out so as to determine whether it might not play a part in the retarding influences affecting the reduction of Fehling's solution by grape sugar. According to Pavy[4] its effect should be small. The results are recorded in the following table. It must be mentioned that the mucin used had been prepared from ox-gall. Such mucin, as the investigations of Hammarsten and others show, differs from the substance from human bile.

TABLE XXI.

Temperature of saturation (Centigrade).	Reaction mixture added to Fehling's solution.	Result of boiling.
50°	Aqueous solution of mucin.	The mixture turned green; no precipitate.
40°	Mucin dissolved in urine.	Ditto.
50°	Mucin in water + 0·1 per cent. sugar.	A red precipitate immediately on boiling.
40°	Mucin + urine + 0·1 per cent. sugar.	Turned light green, but no definite precipitate in five minutes.
40°	Mucin + urine + 0 25 per cent. sugar.	A green precipitate in 20 seconds; changed to orange on standing.
40°	Mucin solution + creatinine (three milligrammes per cubic centimetre)	No apparent change.
40°	Mucin solution + creatine (three milligrammes per cubic centimetre).	Ditto.
40°	Mucin solution + ammonium quadriurate.	A faint red precipitate in five minutes.
40°	Mucin + urine + ammonium quadriurate.	Turned green; no precipitate.
40°	Mucin + urine + ammonium quadriurate + 0 1 per cent. sugar	A green precipitate in two minutes.
40°	Ditto.	On boiling continuously a green precipitate in 40 seconds.
40°	Mucin + urine + ammonium quadriurate + two milligrammes creatinine per cubic centimetre + 0·1 per cent. sugar.	No precipitate.
40°	Mucin + urine + ammonium quadriurate + two milligrammes creatinine per cubic centimetre + 0·1 per cent sugar + two milligrammes creatine.	No precipitate.
40°	Mucin + ammonium quadriurate + two milligrammes creatinine + 0 1 per cent. sugar.	A green precipitate in one minute.
40°	Mucin + urine + ammonium quadriurate + three milligrammes creatinine per cubic centimetre + 0·25 per cent. sugar.	A green precipitate in two minutes and five seconds after boiling.
40°	Mucin + urine + ammonium quadriurate + three milligrammes creatine per cubic centimetre + 0·5 per cent. sugar.	Turned a bright orange and opalescent.*
40°	Mucin + urine + ammonium quadriurate + three milligrammes creatine per cubic centimetre + 1·0 per cent. sugar.	Turned a bright orange and in one minute gave a black precipitate.†

* On doubling the quantity of Fehling's solution a green precipitate formed at once.

† The proportion of Fehling's solution was insufficient.

(5) *Theobromine and Theine.*—Of these neither was found to have appreciable inhibiting power or to cause precipitates to form on boiling their solutions with Fehling's solution.

From these sets of experiments the conclusion may be arrived at that grape sugar, glycuronic acid, uric acid, and urates may cause the precipitation of a green substance from Fehling's solution under the influence of interfering substances normally present in urine. Creatinine has the most powerful inhibiting action among the substances present, but mucin and creatine have also distinctly retarding effects. The inhibiting influence is diminished on boiling for a few minutes. Uric acid and urates, theine and theobromine have no retarding influence. Whether the retardation depends upon the formation of ammonia as maintained by Pavy should be determined by experiment.

The most important point clearly brought out by the whole series of the above experiments is that small quantities of sugar might be present in normal urine—up to 0·1 per cent. or even 0·15 per cent.—without Fehling's test giving any definite indication. A ¼ per cent. would generally be readily detected, and 0 3 would invariably be indicated by taking proper precautions. A ½ per cent. should generally give a thick reddish precipitate.

II.—PAVY'S MODIFICATION OF THE COPPER TEST.

Pavy's method of determining sugar really gives the total quantity of reducing substances. In normal urine the quantity of sugar present is probably represented by from 20 to 50 per cent. of the reducing action. We refer to this later when considering Pavy's values. It has merely to be mentioned here that if Stillingfleet Johnson's method of removing creatinine, creatine, urates, and other interfering substances be adopted, Pavy's method of testing should indicate in the filtrate the quantity of grape sugar and similar bodies originally present. Experiments should be carried out in this connexion in order to verify definitely Allen's[5] statement that 0 05 per cent. or more of a reducing substance generally remains after treatment

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[4] Carbohydrate Metabolism and Diabetes, 1906, p. 17.

[5] THE LANCET, July 28th, 1894, p. 213.

III.—THE SAFRANIN TEST FOR GRAPE SUGAR.

This admirable reagent for estimating small quantities of grape sugar was introduced by Crismer[6] in 1888 and has been investigated by Allen.[7] Safranin is a deep reddish powder, dissolving in water to give a blood-red solution quite stable on keeping. The commercial substance is probably a mixture of several bodies of allied constitution ($C_{18}H_{17}N_4Cl$, $C_{20}H_{19}N_4Cl$, and $C_{21}H_{21}N_4Cl$), which can be reduced by various substances in alkaline solution. *Unlike Fehling's solution, safranin is unaffected by creatinine, creatine, uric acid and urates, and mucin.* It is only slowly affected by albumin, so that even if albumin be present a fairly accurate approximation to the quantity of sugar in solution can generally be obtained without removing the albumin. These valuable properties render the safranin test much simpler in regard to consideration of the results obtained than Fehling's test and we are surprised that it has not received more general recognition. The method of testing for glucose by means of safranin is as follows. A solution of safranin, preferably containing one gramme per litre (approximately eight grains per pint) is employed. Two cubic centimetres of this solution and two cubic centimetres of normal caustic soda or potash (i.e., caustic soda containing 40 grammes per litre or caustic potash containing 56 grammes per litre) are mixed with two cubic centimetres of the solution to be tested—e.g., urine. The mixture is boiled and if glucose be present to the extent of 0·1 per cent. the bright red colour gives place to a clear yellow. At the same time the solution slowly becomes turbid from separation of the white leuco-derivative. An approximately quantitative estimation can be made by gradually adding more safranin and boiling until a distinct red tint remains. Every two cubic centimetres of safranin required indicates approximately 0·1 per cent. of grape sugar or some equivalent substance. Agitation of the solution should be avoided during the whole experiment because the leuco-body is readily re-oxidised by the oxygen of the air. If a large quantity of sugar is present the urine should be greatly diluted. Carrying out the reaction as above described, we have confirmed Crismer's statement that normal urine as a rule gives a distinct reaction, and if the reducing substance present is assumed for calculation purposes to be grape sugar, the quantity present varies generally between *0·025 and 0·15 per cent.* Under 0·025 per cent. has only been found by us in one instance—viz , 0·018 per cent. —in a urine of specific gravity 1008. It is probable that diet, exercise, and manner of life might alter these values somewhat. The general average that we have found for normal urines would be 0·07 to 0·08 per cent. In this connexion the observations of Worms[8] are worth mention. He examined the urine of 607 persons of the labouring class and found it in each case quite free from sugar, whereas out of 100 samples from different persons engaged in work involving mental activity and sedentary life he found sugar in ten cases. It might be pointed out, too, that the ingestion of sugars in large quantity will generally produce transitory glycosuria in quite healthy subjects.[9] As other sugars—e.g., lactose, lævulose, maltose, and galactose, and probably pentose, as well as glycuronic acid—reduce safranin, and perhaps unknown substances of similar reaction may be present in urine, the value *0·025 to 0·15 represents approximately the maximum quantities of reducing sugars which are generally present in normal urine.*

It might be argued that alkaline safranin solution is merely a reagent which indicates reducing substances of a certain type or types and does not directly prove that grape sugar is present. This must be admitted to be true and we have merely calculated the quantities indicated by safranin in preceding experiments as grape sugar for convenience of comparison. There are many arguments which can be brought forward, however, as confirming the assumption that grape sugar is at least one of the factors causing reduction. We have thought it well to summarise them at the end of the paper. Probably isomaltose is also present.

In order to show what kind of comparative results are obtained with safranin and Fehling's solution, the following tables of results (taken from tests in the wards of the Middlesex Hospital, which we were enabled to carry out by the kindness of Dr. W. Pasteur) are appended. They indicate how readily the maximum percentage of sugar can be found by means of safranin solution. In most cases, except in those containing albumin, it will be observed that, taking into consideration the results of Tables II. to XV., the

TABLE XXII. (*April, 1906.*)

Disease.	Specific gravity of urine.	Volume of safranin solution in c.c. decolourised by 2 c.c. of urine.	Percentage of decolourising substances calculated as grape sugar.	Result of Fehling's test.
Muscular rheumatism.	1027	3·0	0·15	A green colouration; precipitate on standing.
Rheumatism.	1010	0·5	0·025	The solution remained blue.
Chronic nephritis.	1012	0·5	0·025	A deep purple colour.*
Pulmonary tuberculosis.	1014	2·0	0·1	A green solution.
Ditto.	1037	2·8	0·14	A green solution; slight yellowish precipitate on standing.†
Morbus cordis.	1008	0·5	0·025	The solution remained blue.
Gastrectasis.	1018	3·0	0·15	A green solution; precipitate on standing.
Rheumatism.	1010	1·0	0·05	The solution remained blue.
Aneurysm.	1016	1·0	0·05	Ditto.
Tabes dorsalis.	—	2·0	0·1	A green solution.
Cirrhosis of liver.	1025	2·0	0·1	Ditto.
Diabetes.	1030	140·0 (7 c.c. for 0·1 c.c. urine)	7·0	A red precipitate at once.
Cerebral syphilis.	1010	1·0	0·05	The solution remained blue.
Hemiplegia.	1026	2·0	0·1	A greenish solution.
Influenza.	1024	2·0	0·1	Ditto.
Morbus cordis.	1018	1·5	0·075	Ditto.
Pernicious anæmia.	1014	2·0	0·1	A green solution.

* This sample gave a strong biuret reaction.

† This sample was saturated with urates, which have apparently aided in the formation of the precipitate formed on standing.

TABLE XXIII. (*May, 1906.*)

Disease.	Specific gravity of urine.	Safranin test.		Fehling's test.	
		Volume decolourised by 2 c.c. of urine.	Percentage of reducing substances calculated as grape sugar.	Before removal of albumin.	After removal of albumin by boiling.
Pneumonia.	1007	0·5	0·025	Remained blue.	—
Acute nephritis.	1011	1·0	0·05	A deep purple.	—
Pernicious anæmia.	1013	1·0	0·05	A greenish-blue precipitate on standing.	A deep green; no precipitate.
Morbus cordis.	1019	1·5	0·075	A green solution.	Green; a faint precipitate.
Malignant endocarditis.	—	1·2	0 06	Ditto.	Ditto.
Double pneumonia.	1024	2·0	0·1	A brownish-green tint.	A green solution; no precipitate.
Diabetes.	—	72·0 (7·2 c c. for 0 2 c.c. urine)	3 6	A red precipitate immediately.	—
Pulmonary tuberculosis.	—	2·0	0·1	A green solution; precipitate on standing	A deep green; no precipitate.

All of these samples contained a small quantity of albumin except the first. In the third sample the alt

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[6] Pharmaceutische Zeitschrift, series 3, xix., 348.

[7] Chemistry of Urine, p. 83.

[8] Bulletin de l'Académie de Médecine de Paris, 1895.

[9] Stewart's Physiology.

Fehling reaction might be foretold from the indications given by safranin. When albumin is present, as in the case of acute nephritis, the Fehling test is unreliable applied directly, as is, of course, generally recognised. We are inclined strongly to recommend the test as a substitute for that of Fehling. We must emphasise that when one considers that the inhibiting substances, creatinine, creatine, and mucin, and also the substances liable to cause confusion, like uric acid and urates, have no effect, while even albumin is usually negligible, it must be decided that it is a more scientific test than Fehling's or the picrate test as applied to urine. It is, in fact, the most convenient and reliable test which can be applied in the present state of our knowledge. If glycuronic acid be suspected because of the specific gravity of the urine, health and appearance, &c., of the applicant for insurance, recourse must be had to the phenylhydrazine and fermentation tests, or the matter should be referred to an expert.

It is worth noting that a sample of Fehling's solution prepared 40 days previously and which had been freely exposed to light gave a faint greenish precipitate with the first sample, although the reagent boiled alone was unchanged, whereas newly prepared Fehling's solution gave no reaction.

TABLE XXIV.

Disease.	Volume of safranin solution decolourised by 2 c.c. urine (approximately).	Percentage of reducing substances calculated as grape sugar.	Fehling's test.
Chorea.	4·0	0·2	A black precipitate.
Chlorosis.	1·0	0·05	—
Rheumatism.	1·0	0·05	A brownish precipitate.
Chorea.	1·0	0·05	—
Malignant disease of stomach.	4·5	0·22	A green precipitate.
Morbus cordis.	1·5	0·075	—
Dermatitis.	1·0	0·05	—
Typhoid fever (?).	1·5	0·075	—
Puerperal fever.	3·0	0·15	A green precipitate; lactose present.
Addison's disease.	2·5	0·12	—
Neurosis.	3·5	0·17	A green precipitate.
Gastrectasis.	2·5	0·12	—
Morbus cordis.	3·0	0·15	—
Rheumatism.	4·0	0·2	A green precipitate (slight).

The values in the above table are in many cases somewhat above the normal.

In connexion with the safranin test for grape sugar the following comparative table regarding the action of alkaline safranin solution upon substances more or less nearly allied to that substance is worth recording.

TABLE XXV.

Substance.	Quantity.	Volume of safranin solution (containing 0·5 gramme per litre) decolourised.*	Remarks.
Grape sugar (dextrose, glucose).	0·5 c.c. of a 1·0 per cent. solution (= 0·005 gm.).	5·5 to 6·0 c.c.	Reaction easy—complete within one and a half minutes.
Glycuronic acid.	Ditto.	5·5 to 6·0 c.c.	Ditto.
Lævulose.	Ditto.	Solution turns deep brown.	—
Galactose.	Ditto.	6·0 c.c. approximately.	Reaction easy—complete within one and a half minutes.
Lactose.	Ditto.	6·0 c.c.	More difficult than glucose.
Maltose.	Ditto.	5·5 c.c.	Ditto.
Cane sugar.	Ditto.	—	No reduction.

* The above values are only approximate. The strength of the safranin solution was half that recommended for general work.

IV.—THE PHENYLHYDRAZINE TEST FOR SUGAR.

The phenylhydrazine test for grape sugar stands in a different position from those so far discussed. If a precipitate be obtained, the melting-point of the crystals determined, and a microscopical examination of their form made, one can say as a rule what substance causes the precipitation. Grape sugar and lævulose give needles melting at 205° C., lactose wide prisms melting at 200° C., and maltose tabular crystals melting at 191° C., if the heating be rapidly *effected*. Cane sugar, as in the case of Fehling's solution and safranin, does not react. It is noteworthy, too, that according to Hirschl,[10] glycuronic acid, which reacts so readily with Fehling's solution and safranin that it is impossible to distinguish between it and glucose by these tests, can be distinguished by the phenylhydrazine reaction. Depending upon the manner of carrying out the test it gives yellow needles, or a brownish amorphous-like mass, the melting-point varying from about 115° C. to 150° C. Hirschl states that if one wishes to distinguish glycuronic acid from grape sugar by this test, the reaction mixture of von Jaksch[11] (50 cubic centimetres of urine, freed from albumin if necessary, two grammes of sodium acetate, and from one to two grammes of phenylhydrazine hydrochloride) should be heated on the water bath for at least an hour. The bright yellow crystals of phenyl-glucosazone, melting at from 204° to 205° C., are then readily distinguished from the brownish substances melting about 150° C. formed by glycuronic acid. We have confirmed this so far as difference in appearance and lower melting point are concerned, but have not gone carefully into exact differences. Hirschl is of opinion that traces of glycuronic acid compounds are normally present in urine, which agrees with the observations of Mayer.[12]

The phenylhydrazine test, taken in conjunction with the fact that glycuronates do not ferment under the action of yeast, may be regarded as fairly satisfactory methods of distinguishing between glucose and glycuronic acid. The test is, however, probably too troublesome for the average practitioner (for the melting point of the crystals obtained should always be taken and a microscopical examination should be made), who should, therefore, if the fermentation test is doubtful and other clinical observations seem to warrant such a course, refer the matter to an expert.

The phenylhydrazine test for grape sugar is a very delicate one. Allen[13] states that 0·005 per cent. can be detected in urine by means of it. Whether he means 0·005 per cent. of added sugar is not clear. There is no question that 0·005 per cent. can readily be detected in aqueous solution by means of it, as we have confirmed the fact, but other observers do not regard the test as being so sensitive as Allen states. Margulies[14] is of opinion that 0·02 per cent. can be detected, but that phosphates may interfere to some extent with the reaction, while Eschbaum[15] states that 0·01 per cent. may be detected if much uric acid be absent, but that 0·025 per cent. could be readily recognised in any case. Hirschl gives 0·03 per cent. in urine and 0·003 per cent. in aqueous solution as the limiting values. The accuracy and validity of the test have been questioned. Jolles[16] states that compounds resembling glucosazone in appearance and melting point are obtained from urines containing condensed glycuronic acids or nucleo-albumins, while according to Mayer[17] a brown amorphous precipitate is formed when normal urine is treated with phenylhydrazine and a 50 per cent. solution of acetic acid, the precipitate consisting of decomposition products of phenylhydrazine, probably chiefly diphenylhydrazine. The test is probably delicate enough if properly carried out to decide the question as to whether glucose is, as a rule, present in normal urine. Assuming that the characteristic crystals are obtained, the only flaw in the argument would be that the reagents used might have split off the glucose from some more complex body normally present, as suggested by the late Sir G. Johnson. This is unlikely. We have tested 25 samples in this way, and in each case have found a precipitate formed on standing for some time either by operating by the von Jaksch method as indicated above or by the more convenient, but perhaps less trustworthy, method of Schwartz,[18] who proceeds as follows: Boil ten cubic centimetres of the urine, and then add five cubic centimetres or more if necessary of a 10 per cent. solution of neutral lead acetate. Boil and filter hot, add caustic soda solution until the precipitate, which first forms, redissolves, and then a *little* phenylhydrazine hydrochloride. Boil for a few minutes and then acidulate with acetic acid. On standing a precipitate is obtained, which can be examined microscopically. The precipitate obtained should invariably be subjected to at least microscopical examination, if necessary after recrystallisation from alcohol and water. Some of the precipitates obtained by us did not on investigation seem to be glucosazone.

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[10] Zeitschrift für Physiologische Chemie, vol. xiv., p. 377.

[11] Zeitschrift für Medicin, vol. xi., p. 20.

[12] Berliner Klinische Wochenschrift, vol. xxxvi., pp. 591-593 and 617-619.

[13] Loc. cit., p. 83.

[14] Berliner Klinische Wochenschrift, vol. xxxvii., pp. 881-884.

[15] Apoth. Zeit., vol. xvii., 280-282.

[16] Pharm. Post, 1901, 34, p. 130.

[17] Berliner Klinische Wochenschrift, vol. xxxvii., pp. 5-7.

V.—THE FERMENTATION TEST FOR SUGAR.

Agreeing with Allen and other observers we have found the fermentation test untrustworthy for the detection of small quantities of sugar. It gives satisfactory results under certain conditions if over 0·5 per cent. of glucose be present. If the bulk of the liquid present is considerable, even with 0·5 and 1 per cent. of sugar present we have found that the gas given off at first gets reabsorbed again. In one experiment with a 1 per cent. aqueous solution kept at 25° C. 50 cubic centimetres of gas appeared above the liquid in 12 hours, which in another 12 hours had gradually dissolved until only 10 cubic centimetres were left. On cooling, this residue was also absorbed. A check experiment seemed to show that this might entirely be due to absorption by the water, because 50 cubic centimetres of carbon dioxide rapidly passed into a graduated vessel over water under similar conditions was entirely absorbed within 12 hours. If fermentation is to be judged by the volume of carbon dioxide given off it is advisable to use small quantities of liquid and to stand the tubes over mercury. Whether any basic body is formed which could take up carbon dioxide was not determined. If so, it would presumably have to be in excess of the succinic acid usually formed as a by-product during the fermentation of grape sugar. We confirmed that glycuronic acid does not ferment with yeast either in neutral or alkaline solution.

It might be worth while determining whether aerobic conditions with large supply of oxygen might not give more satisfactory results than the usual method employed, when the only free oxygen available for the yeast would be that dissolved in the water. Büchner and Mitscherlich[19] point out that the yeast used for fermentation purposes should be free from glycogen—which "bottom" yeast often contains —otherwise carbon dioxide may come off even if the solution contains no sugar. Other observers, Pflüger, Schöndorff, and Wenzel[20] consider the fermentation test untrustworthy.

VI.—THE ALKALINE PICRIC ACID TEST FOR SUGAR.

Braun's alkaline picric acid test for sugar in urine is complicated by the fact that creatinine and creatine reduce alkaline picrate solutions giving a red colour. Mucin does not reduce. Three milligrammes of creatinine per cubic centimetre, however, merely cause the formation of a bright-red tint considerably lighter than that given by 0·1 per cent. of sugar. The test is therefore a delicate one and we have found no difficulty in detecting some reducing substance other than creatinine or creatine in normal urine by means of it. The test was strongly recommended by Sir G. Johnson[21] as a means of quantitatively determining sugar in diabetes, but for the reason given we consider it inferior to the safranin test, and it can hardly be regarded as more accurate than Fehling's quantitative test, if the reaction is rapidly completed, or to Pavy's ammoniacal copper reaction. In testing for small quantities of sugar it has, however, the advantage over Fehling's and Pavy's tests of not being affected by urates, but the decisive reactions obtained with creatinine and creatine neutralise this advantage, at least to a considerable extent.

VII.—OTHER TESTS FOR SUGAR.

Many other reactions for the determination of sugar in urine have been proposed, of which the following might be mentioned. (*a*) The methylene blue test recommended by Wender[22] for the recognition and rough estimation of sugar in diabetes is similar in application to the safranin test. We have not found it to be so convenient, however. We have found some commercial samples of methylene blue to contain traces of impurities giving a blue tint not readily reduced. Qualitatively the test is satisfactory, but it must be kept in view that it is reduced by creatinine and creatine, although not by urates. This renders it much less satisfactory than the safranin test in testing for small quantities of sugar. (*b*) Gerrard's cyano-cupric process,[23] well spoken of by Allen; (*c*) Nylander's modification of Böttger's bismuth test; (*d*) Knapp's alkaline, potassio-mercuric cyanide test; (*e*) Sacchse's employment of Nessler's reagent—potassium mercuric iodide; and (*f*) Hoppe-Seyler's ortho-nitro-phenyl-propiolic acid have not been investigated. Margulies states that the bismuth test is not capable of detecting less than 0 05 per cent. of sugar, while Jolles states that less than 0·08 cannot be readily detected, unless after boiling with salt solution. Ventre[24] mentions a test depending upon an interaction with sulphuric acid, nitrobenzene in alcohol, and ammonium nitromolybdate, by which he claims that 0·000,001 per cent. of sugar can be detected.

VIII.—THE PRESENCE OF SUGAR IN NORMAL URINE, THE POSSIBLE OCCURRENCE OF GLYCURONIC ACID, PENTOSE, LACTOSE, &C., BEING TAKEN INTO CONSIDERATION.

From the clinical point of view this problem is of considerable importance and has already caused much discussion (e.g., THE LANCET, 1894 and 1895). If sugar is normally present in urine in more than small traces, then in examining for life insurance purposes it has to be decided what quantity must be regarded as pathological, while, if sugar should not be present in normal urine, its detection indicates at once an abnormal condition. We have already pointed out that a great number of observers maintain that sugar is normally present, and we have come to agree with them, and especially with Pavy,[25] who stated as early as 1878 that sugar was normally present in small quantity, and that only a quantitative distinction could be made between the amounts present in health and disease. This is strongly emphasised in Dr. Pavy's recent work on proteid metabolism.

We have no intention of entering into the physiological side of the problem, but would merely point out that if sugar is present in the blood, as Pavy's results seem to show, it is unlikely, although not impossible, that a body of such small molecular weight could be *completely* stopped by the kidney cells as Bunge states. It has been determined in this connexion by Bütte[26] that after intravenous injection of glucose in quantity the elimination from the blood only takes from 50 minutes to two hours, but the elimination by the urine takes 36 hours, presumably neglecting the traces normally present.

We have already stated that we venture to differ from Dr. Pavy's method of stating his results. We find by the safranin test that from 0·02 to 0·15 per cent. of a body or bodies reacting identically with grape sugar may normally be present, say 0·08 per cent. (approximately) as an average by the experiments so far carried out. Diet and amount of exercise, as well as specific gravity of the urine, may alter the values considerably. In very concentrated urine values up to 0·25 per cent. might be found. Above 0 3 per cent. should probably be regarded as abnormal, *provided the diet has been normal*, and above 0·4 per cent. should, in our opinion, be regarded as of pathological import. Pavy gives 0·279 per cent. as an average of several experiments (his values varying from 0·091 to 0·488). This value is certainly too high if seriously referred to sugar alone and has been obtained because the reducing action of creatinine, creatine, mucin, and urates has not been allowed for. Dr. Pavy[27] is aware that these substances exercise reducing action but does not regard them as "answering for much in this direction." In our opinion these substances may represent 50 per cent. or more of the reducing effect observed. As the quantities present are of some importance Dr. Pavy's figures for blood and urine before and after hydrolysis should be compared with results obtained by means of the safranin, the Pavy, and the alkaline picrate tests, creatinine and urates being eliminated by Stillingfleet Johnson's method (mercuric acetate) before using Pavy's method.

We would point out that the results of Luther[28] are similar to those recorded above for safranin. He finds 0·1 per cent. as an average in adult excretions and states that the total carbohydrates amount to 0·2 per cent. Rosin[29] states that the total carbohydrates vary between 1·5 and 5·09 grammes per day—i.e., taking 1500 cubic centimetres as normal, between 0·1 to 0·33 per cent.; while Gregor[30] gives the total reducing substances present as determined by Peske's[31] method (ammoniacal copper similar to Pavy's but using colourless paraffin oil to prevent the access of air) to vary from 0·0825 to 0·347 per cent., the values agreeing well with those of Pavy. Other observers differ greatly in their values. According to Baisch[32] the quantity of glucose averages 0·005 per cent. and of total carbohydrate about 0·01 per cent. In a later communication[33] he states that d-glucose, isomaltose, and animal gum are the chief reducing substances. This agrees with Pavy's statement of substances. Pavy points out, as already mentioned, that animal gum is a comparatively insignificant factor. Lemaire[34] gives a similar value to that of Baisch—viz., 0·01 per cent. (approximately). It must be pointed out, however, that the results of Baisch and Lemaire are probably considerably under the true quantities present. Both these observers used the Schotten-Baumann benzoylation method for estimation of the sugar. According to Reinbold[35] the test cannot be regarded as in any way quantitative in its indications. The weight of precipitate obtained varies greatly with the conditions of the experiment, the quantity of benzoyl chloride used and the amount of soda being important factors. Reinbold found it impossible to modify the reaction so as to obtain even comparable results from different samples of urine. The negative tests carried out by Sir G. Johnson as well as Seegen's[36] carbon test require further investigation.

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[18] Pharm. Zeitung, vol. xxiii., p. 465.
[19] Zeitschrift für Physiologische Chemie, 1904, vol. xlii., pp. 534–562.
[20] Pflüger's Archiv, 1904, pp. 121–176.
[21] THE LANCET, Jan. 12th, 1895, p. 87.
[22] Pharm. Post, vol. xxvi., pp. 393–397.
[23] Pharmaceutical Journal [3], vol. xxiii., p. 208.
[24] Zeitschrift Ver Deutschen Zuckerind., 1902.
[25] Guy's Hospital Reports, vol. xxi., p. 413.
[26] Comptes Rendus de la Société de Biologie, 1896, x. 3.
[27] Proteid Metabolism, p. 17.
[28] Chemisches Centralblatt, 1891, vol. ii., p. 9.

Finally, it might be noted that discrimination must be employed with regard to the reducing substances which have to be kept in view as well as grape sugar in testing for life insurance purposes, such as glycuronic acid, pentose, glycosuric acid, lactose (met with during lactation), albumin, creatinine, creatine, &c. Inosite, muscle sugar, sometimes met with, although having the same formula as glucose, is not a carbohydrate. It is hexa oxy-hexahydrobenzene. It neither reduces Fehling's solution nor reacts with phenylhydrazine. Lævulose has only been met with mixed with grape sugar in diabetes, so that its discrimination is, as a rule, unimportant. Glycuronic acid and pentose are perhaps the most confusing of the above substances. Glycuronic acid may be present in quantity and be of no (or little) pathological import, as already stated. It readily appears, too, as a constituent of urine when the following drugs are being taken: chloral hydrate, chloroform, hydrochinon, copaiba, curare, morphine, salicylic acid, tannic acid, turpentine, cubebs, and croton chloral. Neuberg[37] has shown that the acid can best be detected in the presence of sugar by the formation of a para-bromophenylhydrazine compound. It can be separated from sugars by means of its cinchonine salt. This body has the formula $C_6H_{10}O_7$-, $C_{19}H_{22}N_2O$, crystallises in characteristic white needles melting at 204° C., and has a specific rotation [a] of + 138 6°.

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With regard to the occurrence of pentose in urine, this apparently occurs comparatively rarely, but it is worth noting that in ordinary clinical work it might in many cases be set down as glucose. If a precipitate is obtained with Fehling's solution and with phenylhydrazine, but the urine is optically inactive and will not ferment, the occurrence of pentose is probably indicated. The presence of dextrorotatory pentose in urine has been recorded however. The orcin test can be used as a diagnostic one and is best carried out according to Blumenthal[38] as follows. Three cubic centimetres of the urine are treated with six cubic centimetres of fuming hydrochloric acid, a few granules of orcin are then added, and the mixture is heated to the boiling point. As soon as the mixture begins to boil, if a bluish-green colour appears, this may be regarded as proof positive of pentose. Urine containing grape or milk sugar does not give this reaction, while urine containing glycuronic acid gives the test only on prolonged boiling, and then the precipitate is never greenish-blue but is more of a violet colour. As regards the significance of pentosuria Blumenthal states that pentosurics must be admitted to have as favourable a prognosis as mild cases of diabetes.

IX.—CONCLUSIONS.

1. The Fehling's test for sugar in urine is complicated by the retarding effects of creatinine, creatine, and mucin as regards the formation of a precipitate and by the auxiliary effect due to urates. Creatinine has a much greater retarding influence than either creatine or mucin.

2. When testing for small quantities of sugar, in order to carry out the test satisfactorily the inhibiting influence must be neutralised in one of the following ways. (*a*) By diluting the urine if necessary so that its specific gravity is lowered to 1012 to 1015, when the presence of not more than 0·15 per cent. of sugar may be masked. (*b*) By increasing the volume of Fehling's solution used. The following proportions give good results as a rule:—

Specific gravity of urine.	Cubic centimetres of urine.	Cubic centimetres of Fehling's solution.
Up to 1020	2	2·0
1020 „ 1025	2	2·5
1025 „ 1030	2	3·0
1030 „ 1035	2	3·5
1035 „ 1040	2	4·0
1040 „ 1045		4·5

(*c*) By precipitating the interfering substances—including urates—by either (1) Allen's method[39] where copper sulphate and sodium acetate are used to bring down urates, &c.; or (2) Stillingfleet Johnson's[40] method, when mercuric chloride and sodium acetate are used.

3. Temperature has a very important influence both on the appearance and formation of a precipitate, as shown in Tables VII. to XI., if only small quantities of sugar are present. Boiling for a few minutes undoubtedly aids the formation of a precipitate, but may possibly bring down a green precipitate due to excess of urates, unless these have been previously removed.

4. Taking the above facts into consideration, we are of opinion that the most convenient method of procedure when testing for life insurance purposes is as follows. Either dilute the urine until its specific gravity is from 1012 to 1015 (e.g., a urine of specific gravity from 1025 to 1030 would require dilution with an equal volume of water) and then mix with an equal volume of Fehling's solution, or add a larger proportion of Fehling's solution as indicated above; then boil for a few seconds. If no precipitate forms within two minutes it may confidently be concluded that there is no sugar present of pathological import. 0·4 per cent. or more would generally under such conditions give an orange to red precipitate within one minute of reaching the boiling point, while from 0·2 to 0·25 per cent. would give a precipitate within two minutes.

5. The alkaline safranin test for sugar deserves to come into more general use. In the present state of our knowledge it is a more scientific test for sugar in urine than that of Fehling or Pavy, or the picrate test, since the reagent is unaffected by creatinine, creatine, mucin, uric acid and urates, and only slowly by albumin.

6. The fact that safranin invariably gives a reaction with ordinary urine would seem to directly negatives Stillingfleet Johnson's statement, sometimes met with in physiological text-books, that with normal urine three-fourths of the reducing action is due to creatinine and one-fourth to urates.

7. As the results obtained so far indicate that the reaction with safranin indicates a reducing substance or substances which, if calculated as grape sugar, usually varies from 0·02 to 0·20 per cent., Dr. Pavy's values for *sugar* in urine, and perhaps in blood, probably require modification.

8. The phenylhydrazine test must be used with caution when testing for small quantities of sugar. In doubtful

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[29] Centralblatt fur die Medicinischen Wissenschaften, 1901, vol. ii. p. 179.

[30] Chemisches Centralblatt, 1897, vol. ii., p. 231.

[31] Proceedings of the Chemical Society, 1895, p. 43.

[32] Zeitschrift fur Physiologische Chemie, vol. xix., pp. 339–362.

[33] Ibid., vol. xx., pp. 249–252.

[34] Ibid., 1896, vol. xxi., p. 442.

[35] Pflüger's Archiv, 1902, vol. xci., pp. 35–70.

[36] Centralblatt fur die Medicinischen Wissenschaften, 1896, p. 41.

[37] Berichte der Deutschen Chemischen Gesellschaft, 1900, p. 3315.

[38] Cabot's Diseases of Metabolism and of Blood, 1906.

[39] Chemistry of Urine, p. 62.

[40] Ibid., p. 55.

cases the crystals should always at least be examined microscopically and the melting point should preferably be determined.

9. The fermentation test is untrustworthy for small quantities of sugar and in this connexion requires further investigation.

10. The balance of evidence strongly supports the view that small quantities of sugar are normally present in urine. The minimum value which could be assigned for the average amount present would probably be 0·01 per cent. approximately, and the maximum average value assignable would probably be between from 0·05 to 0·09 per cent., and certainly not over 0·1 per cent. Sir G. Johnson's application of the picrate test to prove the absence of sugar from urine, Seegen's carbon test, and Fluckiger's statement regarding the decomposition of reducing substances present in urine on evaporation at 100° C. require further study.

11. From the results of other observers and theoretical consideration^ Wender's methylene blue test, Nylander's bismuth test, Hoppe-Seyler's ortho-nitrophenyl propiolic acid test, Sacchse's potassio-mercuric iodide test, and Knapp's mercuric cyanide test are probably inferior in convenience, or accuracy, or both, to the safranin test.

12. Finally, in testing for life assurance, as many tests as possible should be applied in doubtful cases. The safranin test if used as an auxiliary to the Fehling test might alone be sufficient to settle troublesome cases where small quantities of sugar and large quantities of creatinine cause the latter test to be uncertain. Glycuronic acid can be distinguished from glucose by the fermentation and phenylhydrazine tests.

NOTES ON
AN UNUSUAL CASE OF THROMBOSIS OF THE LOWER PART OF THE LATERAL SINUS, OF AURAL ORIGIN.

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The complications of mastoid disease are varied and often most interesting. The following case seems to me to be a very unusual one and instructive in many ways.

A strong healthy lad, aged 14 years, had had a discharge from the left ear, with occasional attacks of pain, for several years. I saw him on August 23rd. He had had severe pain in the mastoid region, off and on, for some days. There was no swelling or tenderness over the mastoid or over the jugular vein, but a large perforation of the drum with scanty offensive discharge. The temperature was 104° F. and the pulse was 94. The discs were normal. He was put to bed and glycerine-of-carbolic-acid eardrops were applied. On the next day the pain had disappeared and the temperature was normal. He felt perfectly well, with no pain or fever, until Sept. 2nd, when there were a sudden rise of temperature to 104° and a severe rigor. The mastoid was opened at once and the lateral sinus was exposed. Some pus was found in the mastoid cells, but the sinus was apparently quite normal, the dura mater was not thickened, and there was no thrombosis. As the rigors recurred and there was crepitation over the left lung the wound was reopened on Sept. 6th. The dura mater looked quite normal, there was no extradural abscess, and the sinus was not thrombosed. An incision was made into the sinus and there was a sudden gush of blood, which was difficult to control. There was no swelling or tenderness over the jugular vein. There was no papillitis, although the discs were rather congested. Both lungs became involved and there were signs of commencing endocarditis. The cerebellum was explored with negative results. The boy died on Sept. 19th. The post-mortem examination showed a small purulent clot in the jugular bulb. The lateral sinus itself was not thrombosed and the walls were nearly normal, with perhaps some thickening in the lower part.

This case is interesting from several points of view. There never was any swelling or tenderness over the mastoid or over the jugular vein. The walls of the lateral sinus were practically normal and the thrombosis was situated low down in the bulb of the jugular. We should, in all similar cases, not only examine the upper part of the lateral sinus, but also the lower part as far down as the bulb of the jugular. The sinus may be apparently normal and the thrombosis be situated lower down. In fact, we should always, in cases of mastoid disease with recurrent rigors, ligature the jugular, even if we cannot find any definite lesions in the vein. The walls may be diseased over a very small area and a small septic clot form there, which would give rise to septic disease of the lungs. Had the jugular been tied early in this case the boy's life would probably have been saved.

Bradford.

NOTES ON A CASE OF PERICARDITIS FOLLOWING HEAD INJURY; PARACENTESIS.

By JOHN GILLAN, M.A., M.B., C.M. Glasg.

The patient whose case forms the subject of the followi notes was a lad, aged 16 years, employed in the coal-p here. On July 4th last while at work he was thrown again a large wheel which carries a wire rope and which w rotating at considerable speed. His head came in conta with the flange of the wheel and as he could not relea himself he had to lie in that position for several minutes t the wheel could be stopped. The resulting injury was a ve much lacerated wound, extending from the upper part of th posterior triangle of the neck to the parietal eminence an passing immediately behind the auricle. The wound wa six and a half inches long by three and a half inches broa In the centre, where the prominence of the mastoid shoul have been, was a deep groove filed out of the bone by th friction of the wheel. The wound was in a very dirty co dition, grease and coal-dust having been forced in amongs the torn muscles and fascia. The wheel, owing to th friction of the wire-rope and the speed at which it wa rotating, must have been hot as there was evidently burnin as well as laceration of the tissues. When I saw the la about an hour after the accident there were no signs of con cussion. After prolonged and careful cleansing of th wound it was dressed with iodoform and lint wrung out o perchloride solution.

It would be needless to describe in minute detail the progress of the case up to the onset of the pericarditis, but I may say that with daily dressing the wound, so far as the soft tissues were concerned, did well after the separation of superficial sloughs. It soon showed a healthy granulating surface and healing edge. There remained, however, a layer of dead bone on the surface of the groove in the mastoid region.

The general condition of the patient almost from the very first was not good. On the third day his temperature began to rise. It continued to be very variable, ranging from subnormal to 105·4° F. and showing no regularity in its rise and fall. He had attacks of sickness every third day or so, his appetite failed, he lost flesh rapidly, had occasional rigors and sweating, and obstinate constipation. His pulse-rate varied with the temperature from 80 to 120 per minute, but was never abnormally slow. There were no other signs of brain compression or irritation but it seemed clear that there was some septic condition within the skull, probably a septic meningitis.

On August 15th a sequestrum, consisting of a thin sheet of bone covering two-thirds of the original groove, was found to be loose and was removed. In the central and deepest part of the groove the removal of this dead bone left nothing but unhealthy granulations; in the shallower part the inner table was left. A small quantity of pus escaped at the time and on the next morning the dressings were found to be soaked with pus. Great improvement followed. The temperature fell to subnormal, continued so for three days, and then rose slightly, but remained under 100°. The pulse-rate varied from 80 to 95 per minute. The sickness abated, the bowels moved naturally, and only one rigor occurred after the removal of the sequestrum. This improvement continued for eight days (until the 23rd), when he was suddenly seized about 4 P.M. with violent pain in the præcordial region, most intense at the nipple. The temperature was found to have risen to 101° and the pulse to 104. Nothing abnormal could be heard on auscultation until the following day, when slight pericardial friction was made out a little above and to the inner side of the nipple. There was no sign of effusion.

On August 25th the temperature was 10[illegible] It varied very little from this point for the next seven days. The pulse was 120. Friction had disappeared and the cardiac dulness was increased. The effusion rapidly increased until on the sixth day from the onset of the pericarditis the cardiac dulness had reached the first intercostal space above; on the inner side one inch beyond the right border of the sternum and on the outer one and a half inches beyond the nipple line. The apex beat could not be felt. On the left side of the chest behind there was also an area of dulness. Signs of cardiac failure had become pronounced. The heart sounds were weak and distant. The pulse had risen to 140 per minute when the patient was quite still and the slightest movement sent it higher. It was regular but weak, thready, and without dicrotism. There was cyanosis. The breathing was hurried and distressed although there was no orthopnœa, the lad preferring to lie on his back with his head fairly low. All nourishment was refused and although there was no pain sleep could not be obtained.

On August 30th—i.e., the seventh day from the onset—a small trocar and cannula connected with an aspirator was passed into the chest in the fourth left intercostal space, one inch from the border of the sternum. A slight vacuum was formed and fluid at once began to flow. When about six ounces had been removed the cannula was withdrawn and the puncture was sealed. The patient bore the operation well. The fluid was clear with a very faint greenish tinge and a few flocculent particles floating in it. Very slight lessening of the cardiac dulness could be detected. The effect was almost immediate. Two hours afterwards I found him quietly sleeping. His pulse was stronger and fuller and the rate had fallen to 120. He slept all night and in the morning his pulse had fallen to 110. The breathing was easy and the cyanosis had disappeared.

The further progress of the case has been one of steady and uneventful improvement. Within a few days the pulse-rate fell to 80. Two days after tapping the temperature fell to normal and there has been no subsequent material rise. The remainder of the fluid was absorbed so quickly that at the end of a week the cardiac dulness seemed normal. His condition still remains (Oct. 15th) good and practically free from anxiety, although there is still a granulating surface unhealed on the head.

The points of interest in the case seem to me to be: 1. The great and immediate relief obtained by the removal of a relatively small quantity of fluid. The actual quantity removed was six ounces six drachms, and considering the extent of the dull area and the small impression made on it by the withdrawal of this quantity it is obvious that the amount of fluid remaining must have been very large compared with what was withdrawn. 2. The rapid absorption of the remaining fluid. 3. The fact that a pericarditis, presumably the result of a septic process, should pass off so quickly and completely without the formation of pus within the pericardium. The other common causes of pericarditis could be excluded in this case. There was no Bright's disease. There was no other indication of rheumatism nor was there a rheumatic family history.

Ryhope.

ON THE DISINFECTANT PROPERTIES OF HYPOCHLORITES OF SODIUM AND MAGNESIUM AS PRODUCED BY ELECTROLYSIS.

BY DAVID SOMMERVILLE, B.A., M.D., D.P.H., M.R.C.P., F.C.S.,
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AND
J. T. AINSLIE WALKER, F.C.S.

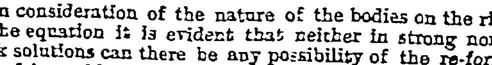
IN a short note on the disinfectant value of "electrolysed sea water" reported in *Public Health* for February, 1906, we drew attention to the facts that such a solution containing one gramme available chlorine per litre possesses a germicidal value represented in terms of the carbolic acid coefficient as 0·2; and that when the fluid was diluted with sterile urine the carbolic acid coefficient practically vanished.

In an annotation entitled "Electrolytic Disinfectant," published in THE LANCET,[1] certain claims are made for the disinfectant properties of an electrolysed saline fluid to which in the interests of sanitary science we deem it necessary to call further attention. In an introductory reference to the findings of THE LANCET Special Analytical Sanitary Commission on the Treatment of Sewage by the Hermite Process at Worthing in 1893, it is stated that it was then shown that the disinfecting power of the electrolysed saline fluid on the bacillus typhosus fell to one-half or less of its previous *disinfecting* power up to the first five or ten minutes of its operation; but after this time its efficiency seemed to be recovered; and an attempt is made to explain the recovery by assuming a "carrier" action for hypothetical chlorine bodies in combination with the medium, "by which the disinfectant is handed on in an even *more* efficient form to the micro-organisms." "A similar action," it is added, "takes place on adding the antiseptic to urine—that is to say, the antiseptic value tested in five minutes is reduced to about one half on the addition of urine; but the antiseptic power which *seems to have been lost*, if it is given sufficient time to operate, is still available, as in 24 hours the solution with urine exerts the same influence as that without. It, in fact, seems more active. Samples of broth which had received comparatively small quantities of electrolysed saline solution, even after *several weeks, contained* a *sufficient amount* of available chlorine to be titrated in the form of iodine with arsenious acid or thiosulphate of soda." And referring to the electrolysed solution of magnesium and sodium chlorides prepared at Poplar, the writer claims for this fluid that it "*keeps at a standard strength and is permanent.*"

With regard to the "carrier" or catalytic action claimed we cannot conceive what, or of what nature, the assumed substance, or substances, may be. It is clear that the germicidal action of an electrolysed solution of hypochlorites in conjunction with NaOH is ultimately effected through the union of nascent O (derived from hypochlorous acid) with the protoplasm of the germ. The possibility of free Cl uniting with and coagulating the bacterial protoplasm is shut out by reason of the infinitely greater chemical affinity of Cl for H_2O and NaOH than for the protoplasm of the microbe or other form of organic matter encountered. In the separation of O from HClO, as in the equation $HClO = HCl + O$, and in the interaction of HCl with NaOH, as per the equation $HCl + NaOH = NaCl + H_2O$, we see no opportunity for the formation of chlorine bodies capable of producing hypochlorous acid or free Cl; and, for reasons mentioned below, it must be admitted that the formation of HClO continues only so long as the electric current acts.

With respect to the permanence and standard strength of the fluid on keeping it is unnecessary to resort to experiment to demonstrate the obvious conclusion—viz., that in such a mixture of stable and unstable compounds a rearrangement of the more unstable ions will commence immediately the external energy-transformer is removed, and that the time required for the attainment of equilibrium will depend only on the nature and magnitude of secondary energy-transformers, such as light, internal and external heat, &c. Assuming that the associated organic matter acts in the capacity of a secondary energy-transformer the change must be in the direction of hypochlorous acid becoming hydrochloric acid, or a chloride, and not in the direction of the lower-potential chloride becoming the higher-potential hypochlorous acid, since the last type of energy change is only possible under the action of an external energy-transformer.

The following equation represents what occurs in fairly concentrated solutions when sodium hypochlorite acts on urea:



$$CO\begin{cases} H_2N \\ H_2N \end{cases} + 3NaClO = 3NaCl + 2H_2O + CO_2 + N_2.$$

From consideration of the nature of the bodies on the right of the equation it is evident that neither in strong nor in weak solutions can there be any possibility of the *re-formation* of hypochlorous acid or its salts apart from the type of external energy-transformer just mentioned. These remarks apply equally to *mixtures* of hypochlorites with uric acid, creatinine, and the other urinary compounds of like type. Effront[2] has shown that amides, imides, nitril bases, acid amides, and amino-acids, react at ordinary temperatures on alkaline hypochlorites, and that thereby a loss of Cl occurs which is proportional to the weight of the added substance. It must therefore be concluded that the available Cl in this fluid diminishes on standing, is rapidly destroyed in the presence of organic matter, and does not later reappear.

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[1] THE LANCET, August 18th, 1906, p. 453.

[2] Bericht der Deutschen Chemischen Gesellschaft, 37, 4290 (1904).

The following experiments attest the truth of these conclusions:—An estimation of the available Cl in a sample of electrolysed fluid, obtained at Poplar on June 23rd, 1906, by the arsenious acid method, gave us 0·355 per cent. Re-examination of this fluid on August 26th by the same method gave 0·319 per cent. available Cl, a loss of a little more than 11 per cent.

Admixture with urine: equal volumes of the fluid and human urine (average of four samples passed by healthy workmen) when left in contact for an hour gave no reaction with sensitive KI-starch paper. After 24 hours a like result was obtained; and the solution tested weekly for six weeks gave the same negative result.

The determination of the carbolic acid coefficient of the fluid, using bacillus typhosus, gave us (1) with pure water as the diluent, 0·6; (2) with urine as the diluent, after one minute's contact, 0·075; and (3) with urine as the diluent, after one hour's contact, less than 0·01.

It is thus seen that the hypochlorites of this fluid, like all hypochlorites, are unstable and, in presence of organic matter, untrustworthy disinfectants; and to make such claims as those above noted is not calculated either to benefit the public or to advance the interests of sanitary science.

A CASE OF POISONING BY "X.L. ALL VAPORIZING FUMIGATOR."

BY EDWARD J. BLACKETT, M.R.C.S. ENG., L.R.C.P. LOND.

IN the early hours of Oct. 11th a man was found lying on his face on the grass in one of the public parks quite dead, with rigor mortis well marked. The ground close to the body showed no signs of a struggle, though a tuft of grass torn up by the roots was grasped in the right hand. On turning the body over, the left side of the face and neck were covered with blood; there was also blood around the nostrils. At first sight it looked as if the case were one of "cut throat." However, on washing the blood away no wound could be found beyond a slight graze on the bridge of the nose, so the probable cause of the hæmorrhage was from the nostrils due to the man falling heavily on his face. There were no other marks of violence on the body. On searching the clothing a bottle, of about six ounces capacity, of "X.L. All Vaporizing Fumigator," two-thirds empty, was found in the inner pocket of the overcoat; the stopper was in the bottle. The contents smelt strongly of camphor, and according to the label the fluid was a concentrated solution of nicotine, 10 per cent. stronger than No. 3 (No. 3 being another of these preparations). A warning was also printed advising people to keep the bottle in a safe place and out of the reach of children. There was no smell of camphor about the mouth or the clothing.

At the post-mortem examination the following points of interest were noticed. The body was that of a well-nourished man 5 feet 5 inches in height. There was a pedunculated tumour of the size of a hazel nut growing from the centre of the back of the neck. The penis was in a state of erection and the right testicle was drawn up into the inguinal canal. The lungs were engorged and of a deep purple colour, with old pleuritic adhesions on the right side. The blood was very dark purple and liquid. The heart weighed 13¾ ounces and showed signs of old mitral disease. There were two "milk spots," each of about the size of a sixpenny-piece, situated on the anterior surface of the left ventricle. The œsophagus was very congested and contained a fluid smelling strongly of camphor; the mucous membrane was swollen. The stomach contained about one and half ounces of chocolate-coloured fluid, also smelling of camphor, and a little undigested food. The mucous membrane was dark crimson in colour and the blood-vessels were in a state of extreme engorgement. The camphor vapour was so strong that it caused watering of the eyes. The intestines were distended with gas and were bile stained. The liver showed signs of old cirrhosis and was congested. The kidneys were large and very congested. The scalp of the head and the membranes of the brain were congested and the blood was dark coloured. The brain was normal.

"X.L. All Vaporizing Fumigator" is largely used for the fumigation of greenhouses; it can be obtained from any seedsman or nurseryman, and since, I believe, 1904 has had a poison label attached to each bottle, previously to which date no such label was on the bottle. It is a mixture containing nicotine, camphor, and alcohol, with a little water and colouring matter, the percentages being: nicotine, 37·3; camphor, 34·3; and alcohol, 15·1, the balance being water. Three or four drops are sufficient to destroy human life.[1] A fatal case of poisoning by the "X L. All Insecticide," containing 4 per cent. of nicotine, has been reported.[2] As far as I can gather this is the first fatal case of poisoning by the fumigator, which is nearly ten times stronger than the insecticide. Cases of poisoning by nicotine are comparatively rare, though in the pre-anæsthetic days, when enemata of tobacco were given to produce muscular relaxation in order to facilitate the reduction of fractures, ten fatal cases were recorded. In 1851 a Belgium count murdered his brother-in-law by giving him nicotine. Fatal cases have also been reported where tobacco or snuff has been put into beer. Dr. A. P. Luff records a case of a child who used an old tobacco-pipe with which to blow soap bubbles, and also one of a boy who smoked a pennyworth of twist tobacco; both these cases ended fatally. In the present case there was no sign of the man having vomited. Death must have taken place almost directly, though he had time to replace the stopper in the bottle and to put it into his coat pocket before he died. Considering the ease with which the general public can obtain this deadly poison, it is strange that there have not been more fatal cases to record, and that the regulations governing its sale are not more stringent.

Bryanston-street, W.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

On Some Aspects of Dilatation of the Heart.

A MEETING of this society was held on Oct. 23rd, Mr. J. WARRINGTON HAWARD, the President, being in the chair.

Dr. ALFRED M. GOSSAGE read a paper on the above subject, an abstract of which appears at p. 1126.

Dr. ALEXANDER MORISON said that he agreed entirely with Dr. Gossage that dilatation of the heart was due to the loss of tone in the cardiac muscle, and he thought that was the view which had long been held by most observers. Numerous factors were at work in the production of this loss of tone and it was as to the relative part taken by these factors that observers differed. He pointed out that many organs having a rhythmical action were highly endowed with nervous elements and that at an early period of fœtal life rhythmical contractility of the cells existed apart from any direct nervous connexion. He suggested that, as in wireless telegraphy, it was possible that nervous influence might be exerted without any anatomical connexion with muscular tissue.

Dr. E. IVENS SPRIGGS asked what proof could be adduced to show that the extra-systoles were due to contraction of the ventricle. Only a partial picture could be obtained from a tracing of the jugular vein, and because one was unable to obtain evidence of an auricular beat one was not justified in the assumption that there was no auricular systole. He did not think it likely that the extra-systoles arose in the ventricle. In dealing with dilatation Dr. Gossage had not mentioned the effect of mechanical pressure which he considered an important factor. The tone of a muscle was lost because the load was too great. If the cavity of the heart dilated the muscular power had to be increased manifold to overcome the resistance. When the auricle became fully dilated it refused to contract and no impulse passed to the ventricle, and this explained its failure to contract.

Dr. JOHN HAY said that the condition of the myocardium in dilatation had of late been as much considered as the condition of the valves. The point emphasised in the paper was that when tonicity was increased the other functions of the heart were relatively diminished. He pointed out that Gaskell had shown that sodium hydrate solution perfused through the heart gave rise to an increased tonicity and also to an increased frequency. With digitalis also there was at first slowing, then an increased tonicity and increased frequency. If Dr. Gossage's view was correct there should not be an increased frequency. He did not consider that tonicity was fundamentally the same as contractility.

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[1] Report by Sir Thomas Stevenson, Pharmaceutical Journal, September, 1904.

[2] Pharmaceutical Journal, 1904, p. 376

Professor WINCKEBACH said that he was in favour of the myogenic theory of the action of muscle. The various qualities in the heart muscle might be altered independently, but proof was needed to show that tonicity stood in definite relation to the other qualities of the heart as put forward in the paper. He thought that positive evidence obtained from the venous pulse was most valuable. The application of physiological method to clinical observation was most important, and having obtained certain results it was necessary to refer the question in a definite form to the physiologist to answer.

Dr. GOSSAGE replied.

MEDICAL SOCIETY OF LONDON.

The Bacteriology of Aseptic Wounds.

A MEETING of this society was held on Oct. 22nd, Mr. JOHN LANGTON being in the chair in the unavoidable absence of the President.

Mr. LEONARD S. DUDGEON and Mr. PERCY W. G. SARGENT communicated a paper on the Bacteriology of Aseptic Wounds. They commenced by defining aseptic as a state of being free from septic processes and contrasted this with the term antiseptic and sterile. Aseptic wounds were not necessarily free from bacteria. A large number of microbes had been found in aseptic wounds and particularly the staphylococcus albus. All but five of the series of 50 consecutive operations at St. Thomas's Hospital had been performed without the use of chemical solutions. Chemical substances coming into contact with the albuminous fluids might produce a pabulum on which bacteria might grow. The methods of operation by aseptic means were then described and the precautions adopted in their investigations by Mr. Dudgeon and Mr. Sargent. Observations were made before the wound was closed and afterwards at the several dressings. Out of 45 operations performed without chemicals the wound surface was found to be sterile in only 26. Of the remaining 19 cases the staphylococcus albus was found in pure culture on 13 occasions. Bacteriological examination of a piece of skin cut from the edge of the wound at the conclusion of the operation showed that the patient's skin cleansed without chemicals was sterile in 14 per cent., but when cleansed with carbolic lotion it was sterile in 60 per cent. The exudation was sterile in 24 out of 45 cases and in all the five cases treated antiseptically. In all the cases pyrexia of from 99° to 100° F. followed the operation, similar to that which followed cases of simple fracture, and this was regarded as aseptic fever. Mr. Dudgeon demonstrated and explained a table showing a differential count of the cells from the fluid of a healing wound. 11 out of 45 cases showed a notable increase in the polymorpho-neutrophile cells—cells generally regarded as indicating suppuration—though no suppuration had occurred. Staphylococcus albus was often found in the peritoneum and this dissipated the idea that this organism was solely of skin origin. This microbe probably discharged a physiological function in the healing of aseptic wounds.

Mr. C. A. LEEDHAM-GREEN (Birmingham) exhibited some cultures bearing on the bacteriology of the skin and on the influence of different metals. There was much difficulty in always obtaining the same conditions in such experiments. He had tried the bactericidal power of metal sutures and other metal substances used in operations. Even gold and platinum had a very slight inhibitory action on microbes but lead, tin, and baser metals had more. Copper had the most marked bactericidal power and it was the most powerful inhibitant. A halo free from microbes appeared round copper wire when placed on a Petri dish. Brass and other alloys of copper had a similar effect. Bronze was tolerated in the body better than brass, iron, or any other metal.

Mr. C. B. LOCKWOOD referred to the rise of temperature which occurred with effusion of blood into the peritoneum. He took exception to the definition of an aseptic wound put forward by Mr. Dudgeon and Mr. Sargent. Sometimes this term was used by them clinically, sometimes in a scientific sense. In regard to methods used in their antiseptic cases 1 in 40 carbolic was much too strong; 1 in 60 was amply sufficient. To do without chemicals in old theatres and old hospitals where students had free access was not, he believed, practicable at the present time.

Mr. W. G. SPENCER also referred to what he regarded as the imperfect definition of the term aseptic in the paper and asked whether Mr. Dudgeon and Mr. Sargent regarded staphylococcus aureus as a septic or a non-septic organism. It was not clear under which category they intended to place it.

Mr. J. D. MALCOLM was not altogether prepared to accept the explanation put forward of the effects of intra-peritoneal and other large hæmorrhages and of the methods by which they healed. The staphylococcus could not be held to be necessary to healing as it was not always present in wounds which healed by first intention.

Mr. SARGENT replied.

OPHTHALMOLOGICAL SOCIETY.—A meeting of this society was held on Oct. 18th, Mr. Priestley Smith, the President, being in the chair.—Mr. W. T. Holmes Spicer read a paper on Metastatic Affections of the Eye and showed illustrative cases. The first of these patients was a young man who had a sudden attack of pain in one eye and obliteration of the central part of the field of vision. He was in good general health, except for a large crop of boils on the buttocks from rowing. On examination of the eye three days after the attack of pain a brilliant green mass was seen springing from the centre of the optic disc; it was round, sharply defined, and had no appearance of structure, such as booklets. Its appearance suggested a parasitic cyst. It continued to grow and was making the patient very ill. It was lacerated with a needle under ophthalmoscopic guidance but it only contained some curdy opaque material like pus. The eye was enucleated. The swelling was found to be an abscess in the substance of the retina, having at its centre a large mass of staphylococci. The patient made a rapid recovery in health. The second case was also that of a young man who had had a large boil on the neck and was suddenly seized with pain in one eye and loss of sight. Ophthalmoscopically he had retinal phlebitis well marked in one eye and slightly in the other. After prolonged treatment one eye got well and the other became "quiet" with loss of sight but two years later became acutely inflamed again and was enucleated. Although very seriously ill at the time the patient recovered promptly with enucleation of the eye, showing it to be the only part affected. The third case was likewise that of a young man who had retinal phlebitis followed by local keratitis profunda after a serious attack of diarrhœa due to ptomaine poisoning. The fourth case was one of a diffuse exudation on the surface of the choroid invading slowly nearly the whole of it and producing in places detachment of the retina. The patient was also a young man suffering from a large crop of boils on the neck. Treatment by antistaphylococcal injections was commenced but he refused to continue it.—Mr. George Coats read a paper on Posterior Scleritis and Infarction of the Posterior Ciliary Arteries. He referred to the first description of posterior scleritis by Fuchs in 1902, and to cases probably similar reported by Knapp, Wagenmann, and Salzer. Only two such cases had been submitted to pathological examination. In the case observed by Mr. Coats the disease was not diagnosed during life, as the eye was already disorganised by iridocyclitis at the patient's first visit. On dividing the globe a peculiar round area, 10 millimetres in diameter, was found above the papilla, in the form of a brown island surrounded by a broad yellow moat or gutter. Within this area the inner third of the sclera and the whole thickness of the choroid and retina were completely necrotic. There was no inflammatory infiltration of the necrotic tissues, but a moderate round-cell infiltration was present in the surrounding living tissues. The other changes in the eye were those of iridocyclitis and secondary glaucoma. As the amount of necrosis was out of all proportion to the amount of inflammation there must obviously have been vascular obstruction. The necrosis was more extensive in the retina than in the choroid, and in the choroid than in the sclera, and this corresponded to the usual wedge shape of an infarction.—Dr. F. W. Edridge-Green read a paper entitled "Observations on Hue Perception." These observations were

that a second threatened attack, being promptly treated by a change to seaside air, disappeared almost at once.—Mr. W. Campbell M'Donnell read notes of a case of Fatal Ante-partum Sepsis. The patient was a very debilitated woman, aged 28 years, in her second pregnancy. She was seen by Mr. M'Donnell the day before her delivery on account of a painful swelling of the face due to a carious tooth. The delivery was normal, but on the day following the skin of the face was red over the swelling, which on palpation was thought to be the right parotid salivary gland. At midday the temperature was 103° F. and the pulse-rate was 130. On the next day the right eyelid was closed and there was intense conjunctivitis; the left eyelid was slightly swollen and red. There were intense left-sided chest pain and much general right-sided bronchitis. Left basic crepitations appeared while the bronchitis disappeared. Cardiac failure supervened and the patient died on the sixth day after her confinement. There was no necropsy but the case was considered to be one of intense septicæmia originating in the carious tooth and independent of delivery.

SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN.—A meeting of this society was held on Oct. 19th, Mr. W. Milner Burgess being in the chair.—Dr. T. R. C. Whipham showed a case of Osteo-arthritis in a girl, aged 13 years; the condition began about Christmas, 1905, in both wrists and hands and then affected the knees and ankles. The spleen was not enlarged, neither were the lymphatic glands. Skiagrams showed the enlargement of the joints to be apparently in the synovial membranes and tissues around, as the bones and cartilages appeared normal.—Dr. Whipham also showed a girl, aged 15 years, who was the subject of Numerous Deformities. The bones of the left side of the face were ill developed and the left pinna was deformed. The left shoulder was elevated and the arm was shorter and with less muscular development than the other. There were gaps in the second and fourth ribs and lateral curvatures in the cervical and upper dorsal regions of the spine. The left scapula was deformed and rotated inwards, and the muscles of the shoulder girdle were shortened, producing torticollis.—Mr. Burgess showed two cases of Hypospadias in brothers. In one child there were three openings, one at the meatus and two in the penile urethra, through the lower of which a probe passed into the bladder. It was doubtful whether later the sexual function could be performed without a plastic operation.—Mr. J. P. Lockhart Mummery showed a child, aged seven years, who has been unable since birth to supinate the forearm. The hands were strongly pronated and the amount of rotatory movement at the wrist was very small. It was uncertain if the condition was due to weakening of the supinators with spasm of the pronators or whether the radius was normally developed.—Mr. H. S. Clogg showed a child with Bilateral Congenital Sinuses in the Lower Lip. On the upper margin of the lower lip on each side was a papilla surrounded on the oral aspect by a groove from which a sinus a quarter of an inch long led inwards to just beneath the mucous membrane of the lip. The sinuses converged but did not meet. The child had also a severe degree of bilateral complete hare-lip and cleft palate.—Dr. Alexander Morison showed a boy, aged eight years, with persistent Arrhythmia of the Heart, characterised by the occurrence at intervals of an extra systole and a long pause. At the moment of intermission there was a pulsation of the right internal jugular vein coinciding with the ventricular extra systole. The child suffered no inconvenience. There was a history of a severe attack of measles.—Dr. J. Porter Parkinson showed two cases of Anæmia Pseudo-leukæmica Infantum, one of which had been treated by the x rays since May last with marked improvement in the general condition, the anæmia, and the blood count, the last being at the present time nearly normal. The spleen was reduced to a quarter of its original size. The second case was treated exactly as the former but was not exposed to the x rays; there was no improvement at all in this case.—Mr. Sydney Stephenson showed a child, aged six and a quarter years, with Curious Deformities of the Eyelids. The palpebral fissures were directed downwards and outwards, exposing more of the eyeballs than was customary. The lower puncta lacrymalia were absent. There was a lack of part of the malar bones and the orbital processes of the frontal bones, causing a deficiency in the lower margin of the orbits.—Dr. C. O. Hawthorne showed a case of Cerebral Diplegia in a boy, aged five years. The spastic condition was most marked in the right leg but exaggerated knee-jerks and extensor plantar reflexes were present on both sides. The left arm was approximately normal but the movements of the right were clumsy, although not spastic. The boy could not speak but apparently understood all that was said to him. He was a first-born child, delivered by instruments. The fundi of the eyes were normal. He had never had any kind of fit.—Dr. Hawthorne also showed a child having a Coloboma of the Iris, Choroid, and Optic Disc and an Infant with an Extreme Depression of the Frontal Bone attributed to the use of forceps during delivery.

Reviews and Notices of Books.

Diseases of the Eye: a Handbook of Ophthalmic Practice for Students and Practitioners. By G. E. DE SCHWEINITZ, A.M., M.D., Professor of Ophthalmology in the University of Pennsylvania, &c. With 313 illustrations and six chromo-lithographic plates. Fifth edition. London and Philadelphia: W. B. Saunders Company. 1906. Pp. 694. Price 21*s.* net.

THIS is one of the best text-books of ophthalmology in the English language; indeed, in some respects it is the best. There are many text-books which give an adequate account of the subject, differing from each other only in minor and relatively unimportant details. The present volume is specially suited to the requirements of the advanced student, in that the views of individual workers are simply and accurately stated and are discussed in a manner which displays conspicuous philosophical insight. The book, therefore, approximates in character to a complete system of ophthalmology, whilst it retains the unity and proportions of a moderate-sized text-book. We think that its value might be considerably enhanced by the addition of a short bibliography to each chapter. The enthusiasm of the reader is stimulated by the researches of others and when these are mentioned by name he is likely to be encouraged to pursue his investigations if ready access is given to the original papers.

The present edition is no mere reprint of the last. Certain portions of the book have been entirely rewritten—*e.g.*, those dealing with the pupil and its anomalies, the varieties of conjunctivitis, tumours and cysts of the conjunctiva, unusual forms of keratitis, injuries of the sclera and the detection of foreign bodies within the eyeball, the varieties and pathology of iritis and cyclitis, the pathogenesis and pathology of sympathetic ophthalmitis, and the pathogenesis of glaucoma. The additions, involving an increase in the size of the book by 120 pages, include, *inter alia*, an account of the x ray treatment of epithelioma and trachoma, some forms of conjunctivitis, jequiritol and jequiritol serum, the serum treatment of infected corneal ulcers, some forms of keratitis and scleritis, training of the fusion sense with Worth's amblyoscope, some new operations, and Sweet's method of localising foreign bodies within the eyeball with the Roentgen rays.

Conspicuous in the description of the various diseases is the importance rightly attached to the pathological anatomy, and in this respect, as in others, Professor de Schweinitz shows himself *au courant* with the latest researches. The discussion of treatment is particularly good and whilst the latest innovations receive due consideration there is no tendency to over-estimate them on account of their novelty. The author's good judgment and restraint are noticeable in dealing with new drugs: where experience has taught him that they are useful they are recommended; in other cases they are merely mentioned or ignored. The treatment of diseases of the lacrymal apparatus displays a laudable desire to judge new methods according to their merits and without prejudice. "The operation (of extirpation of the lacrymal sac) is so satisfactory in its results that, in the author's opinion, it should in large measure replace the use of probes and the other measures which have been described."

The literary style of the book is simple and is free from those distressing peculiarities which are so common in many American publications. The illustrations leave little to be desired. We have never seen better reproductions from half-tone blocks representing external diseases and ophthalmoscopic conditions. They are decidedly preferable to the crude coloured plates which often disfigure a text-book. Fig. 145, illustrating a section of the optic nerve-head containing a deep glaucomatous excavation, might with advantage be replaced by one passing through the centre of the nerve. The six coloured plates depicting conditions of the fundus are above the average.

Lectures on Clinical Psychiatry. By Dr. EMIL KRAEPELIN, Professor of Psychiatry in the University of Munich. Authorised translation from the second German edition. Revised and edited by THOMAS JOHNSTONE, M.D. Edin., M.R.C.P. Lond. Second English edition. London: Baillière, Tindall, and Cox. 1906. Pp. 352. Price 10*s*. 6*d*.

THE first edition of this work was reviewed in THE LANCET of July 9th, 1904. In this, the second edition, the book has been revised and two new lectures and some fresh clinical cases have been inserted. The principal forms of insanity as illustrated in Professor Kraepelin's wards are herein dealt with in the form of lectures, 32 in number. These are interesting and helpful, especially from the point of view of diagnosis. Certain of them may be commented upon. Thus the third lecture describes the fundamental characteristics of dementia præcox. The state of katatonic stupor and that of katatonic excitement are described in other lectures, from which the inexperienced might draw the inference that these states are separate and distinct from dementia præcox. States of depression and of megalomania in general paralysis are the subjects of lectures. This disease, it is said, "seems always to develop after syphilitic infection." Cases not of syphilitic origin can scarcely, it is considered, be regarded as similar in kind to the rest of those observed. But on the question of the relationship of syphilis to general paralysis there is still much diversity of opinion. The maniacal depressive state, to which Professor Kraepelin more especially has drawn attention, is illustrated by cases. The value of the prolonged warm bath in conditions of mental agitation is emphasised; for various reasons, chief amongst which is probably the question of mechanical restraint, patients are largely deprived of this valuable means of treatment in this country. Lecture XII. is amongst the most interesting; it deals with insanity in acute diseases (typhoid fever, erysipelas, articular rheumatism, and so on) and therefore probably due to toxæmia. Here, as elsewhere, differential diagnosis is well handled. The lectures on epileptic insanity, varieties of delirium, and puerperal insanity are perhaps somewhat sketchy. There is a good description of paranoia, followed in the succeeding lecture by illustrations of the states designated as "paranoidal forms of dementia præcox"; as to these, it has to be observed that their title to such a designation is still in dispute. A lecture is devoted to morphinism and cocainism; cocaine, it is pointed out, is far more harmful than morphine and therefore should not be employed, as it often is, for the purpose of breaking the morphine habit. We are informed that it is easy for the victim of the morphine habit to obtain this drug in Germany; legislation against the evil is at present powerless. A description of "hysterical insanity" would apply equally well to a case of ordinary hysteria. The subject of insanity after injuries to the head is considered and it is properly pointed out that a connexion between the two conditions is often too readily assumed, especially if a long interval exists between the injury and the onset of the disease. For reasons given operative interference in these cases is undesirable. There is a lecture upon "Congenital States of Disease," which rather comprehensive title covers a description of sexual perversion, of a condition resembling paranoia, and of other ill-defined states, for the inclusion of which under this heading there seems no sufficient reason; at any rate, it is difficult to see why the states of imperative conception and morbid doubt, which are separately considered, should not also be included under the above title. "Morbid Personalities" are next considered, and thereafter "Morbid Criminals and Vagabonds." The term "criminal" is qualified by such adjectives as "morbid," "habitual," and "professional." The question of the soundness or otherwise, psychologically, of the criminal is one which we prefer to leave to the Italian school of criminology. Our Poor-law administrators will learn with some solace that the "terrible plague of vagabondage" extends even to Germany but would probably receive with impatience the suggestion that the tramp is deserving of psychological study. Professor Kraepelin is of opinion that the great mass of vagabonds consists essentially of the feeble-minded, the remainder largely of "pyschopaths" of different kinds. The last two chapters deal with congenital defect and cretinism, and these instructive lectures are brought to a close by suggestive observations as to the lines of work which, in the opinion of the experienced author, are most likely to lead to an advance in our knowledge of mental diseases.

Clinical Obstetrics. By ROBERT JARDINE, M.D. Edin., F.R.S. Edin. With 96 illustrations and a coloured plate. Second edition. London: Rebman, Limited. 1906. Pp. xxviii.–610. Price 17*s*. net.

WE welcome the appearance of a second edition of this interesting work. Dr. Jardine's experience is a very large one and he has made good use of his exceptional opportunities. The book retains its essentially clinical character. It has been thoroughly revised and a considerable number of interesting cases and some 50 new illustrations have been added. Amongst the most important additions are the details of a further series of nine cases of eclampsia, making a total of 30 cases of which the clinical histories are given. It is a great pity that the author has not tabulated his results in a readily accessible form. The furnishing of complete clinical histories in such a book is not a practice with which we agree. They are not as a rule read by students and for other readers tables of results are just as important and much more interesting. We think that such detailed histories, while very necessary in original articles, are out of place in a text-book.

Dr. Jardine claims that his method of treating eclampsia by getting the skin to act, opening the bowels, and promoting the action of the kidneys by the infusion of saline solution containing acetate of sodium of the strength of one drachm to the pint is a very successful one. In many cases he also bleeds the patient, combining this measure with transfusion. The administration of morphine he has given up and he only interferes with the course of the labour if the fits recur in spite of all treatment. This mode of treatment is a rational one but it must be remembered that good results not infrequently follow no treatment at all, and in view of our ignorance of the exact nature of the disease it is extremely difficult to form any correct judgment as to the effect of different therapeutic measures. What we require is a large series of cases in which no treatment at all has been carried out so that we may come to some clear conclusions as to the natural course of this perplexing malady.

The book seems to have been well revised. The tables given in the appendix at the end of the volume have not been altered but, as we pointed out in our review of the first edition, they are most instru nd valuable and show in a very striking manner the rich field of clinical material which exists in this branch of medicine in Glasgow. We can strongly recommend this work to those who are interested in the practice and the teaching of clinical obstetrics. Even if they do not agree with all the author's conclusions, at any rate he furnishes them with the necessary material for forming a just conclusion as to the value of his methods of practice.

The Ophthalmoscope and How to Use It. By JAMES THORINGTON, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic, &c. London: Rebman, Limited. 1906. Pp. 293. Price 12*s.* net.

"THIS book has been written for the student and general practitioner who desires to obtain a working knowledge of the ophthalmoscope with the interpretations of its findings and has not the time, ordinarily, to study a large text-book on the diseases of the eye, in which the subject is too deeply embedded for immediate comprehension." We are not prepared to endorse such an apologia. In no subject is a long and arduous apprenticeship so necessary as in ophthalmology. The intelligent use of the ophthalmoscope entails a thorough knowledge of the principles of optics and of the optical conditions of the normal and abnormal eye, as well as a mastery of difficulties of technique which is attainable only by prolonged practice. If the student has not the time to study a good text-book and the opportunity to become well acquainted with the practical details of ophthalmoscopy it is the fault of the system by which he is trained and such a student is not fit to become a general practitioner. Doubtless Professor Thorington is endeavouring to supply the demands of a class which still exists in the United States, but which is fast becoming obsolete in England since the introduction of compulsory instruction in ophthalmology. We think that he would have been better employed in urging reform in the medical curriculum.

The book is in part an elementary text-book and in part an ophthalmoscopic atlas. After describing the ophthalmoscope and its use, including the somewhat complicated optics of the direct and indirect methods, with calculations of the magnification of the ophthalmoscopic image, the author devotes a chapter to elementary optics. We advise the reader to master Chapter II. before he attacks Chapter I. Then follows a description of the anatomy and anomalies of the eye. One or two inaccuracies may be noted. There is no hyaloid vein; the fovea centralis is not about one millimetre in diameter. Anterior polar cataract is not always a congenital condition; the term posterior polar cataract usually includes posterior cortical cataract as well as the persistent posterior vascular sheath of the lens, which is not a true cataract, being situated outside the lens. Opaque nerve fibres are said never to occur at the macula; at least one such case has been published.

The description of the normal fundus is followed by a chapter on changes in the cornea, aqueous, iris, lens, and vitreous. Reference is made to "the disease known as Descemetitis." We do not agree with the remark that "an excellent way to obtain the iris reaction is to use the 5-volt lamp of the luminous ophthalmoscope and as the patient fixes the lamp to suddenly turn on the electric current." A reaction to accommodation is very liable to be mistaken for a reaction to light by any such method. This sentence is a fair example of the author's literary style, but such expressions as "if the eyes have not been 'glassed'" and "the nearby object" are particularly irritating. More than half the book is thus devoted to elementary and preliminary matter. In the remainder most of the ordinary ophthalmoscopic appearances in disease are described; in many cases the treatment is indicated. There are 12 coloured plates which are somewhat crude. They are reproductions of drawings taken from actual cases but are not in every instance so typical as might be desired considering the object with which the book has been written. We have seen better ophthalmoscopic drawings by the same artist, but the defects may be due to faulty reproduction.

Student's Manual of Medical Jurisprudence and Public Health. By G. HAXTON GIFFEN, L.R.C.P. & S. Edin., F.R.C.S. Irel., D.P.H. Cantab., Senior Demonstrator in Anatomy, Minto House, Edinburgh. Second edition, revised and enlarged. Edinburgh: William Bryce; London: Simpkin, Marshall. 1906. Pp. 372. Price 5*s.*

AFTER a perusal of this volume we can confirm the opinion which we expressed in our review of the first edition of the work—namely, that it contains sufficient information to enable a student to pass the final examination of the Colleges, as far as respects the subjects with which it deals.

Little change has been made in this edition in the pages dealing with forensic medicine and toxicology. A little fresh material has been added, such, for instance, as a description of the biological test for blood. The method of performing the test is, however, very briefly given and no mention is made of the great difficulties that arise in carrying out the procedure, so that practically only an observer with long experience can hope to attain trustworthy results. The portion of the book on public health has been very rightly enlarged so as better to meet the requirements of medical students. Full consideration is now afforded to "communicable diseases"; instructions are given as to the duties of practitioners when brought into contact with cases of an infectious character. The author has attempted a hopeless task in trying to describe in a few lines the preparation of the antitoxin of diphtheria; it would perhaps have been wiser to omit entirely reference to a proceeding which only an expert can properly carry out. A few remarks on meteorology have also been introduced, which may prove interesting to country practitioners.

LIBRARY TABLE.

Simple Introductory Lessons in Midwifery. By M. LOANE. London: The Scientific Press. Pp. 60. Price 1*s.* net.—The author has written this little manual in the hope that it may prove of help to those women who wish to pass the examination of the Central Midwives Board and who although perhaps with some practical experience are so entirely ignorant of the theory of midwifery and so completely unacquainted with the language in which it is usually set forth that they are unable to profit by any ordinary course of lectures on the subject. These lessons are intended to familiarise such students with the vocabulary which they will be required to know, and with a view to doing this each lesson is followed by a short section giving the meaning and derivation of the technical words used. This is a useful little book and no doubt one which will be of service to the class of persons for whom it is intended.

The Influence of the Menstrual Function on Certain Diseases of the Skin. By L. DUNCAN BULKLEY, A.M., M.D. London and New York: Rebman Company. 1906. Pp. 108. Price 5*s.* net.—The author of this book maintains that in many diseased conditions of the skin there occur certain well-marked changes in association with, and dependent upon, each monthly period. These he attributes either to the general changes which occur in the whole body at each monthly period, or to some auto-intoxication of genital origin, or to nervous reflex irritation from the congested condition of the uterus and the ovaries. Dr. Bulkley shows very certainly that there is a definite relationship between certain skin diseases and menstruation but we are glad to see that in the chapter on treatment he points out that treatment directed to the pelvic organs alone in these cases is not likely to produce much result, they must be treated on general principles. The book is an interesting one and the author makes good his contention.

JOURNALS AND MAGAZINES.

The Bio-Chemical Journal. Edited by BENJAMIN MOORE, M.A., D.Sc., and EDWARD WHITLEY, M.A. Vol. I., Nos. 8, 9, and 10. Pp. 100. September, 1906. Published by the Bio-Chemical Department, Johnston Laboratories, University of Liverpool. Price 15*s*. per vol. of about 480 pages.—The articles contained in these numbers are: 1. On the Use of Soluble Prussian Blue for Investigating the Reducing Power of Animal Bioplasm, by Davis Fraser Harris, M.D. Glasg., lecturer on physiology, and James C. Irvine, D.Sc., lecturer on organic chemistry, from the Physiological and Chemical Laboratories, United College of St. Salvator and St. Leonard, University of St. Andrews. The authors of the article show that potassio-ferric-ferrocyanide injected into blood-vessels *intra vitam* and retained in them after death is transformed into the green or white di-potassio-ferrous-ferrocyanide, and thus demonstrate the bio-chemical reducing power which living tissues possess. This change is not due to the alkalinity of the tissues, though this condition provides for reduction in an alkaline medium. By perfusing the soluble Prussian blue and gelatin through a surviving kidney until a flow from the ureter of the leuco- or pale green salt has been established, the reducing power of the renal tissue in particular can be strikingly demonstrated. The chief factor in producing this result is pressure but in addition there is the chemical basis of the respiratory phase of tissue respiration. 2. A Contribution to the Experimental Pathology of Catarrhal Jaundice, by Roderick Tate Sutherland, M.B., C.M. Glasg., from the physiological laboratory, University of Melbourne. Dr. Sutherland found that after ligature of both the pancreatic and biliary ducts in dogs, prosecretin was still present in the mucous membrane of the duodenum and jejunum. The contents of the duodenum and jejunum were found to be acid for a distance of five feet eight inches but beyond this point were alkaline. 3. The Action of Carbon-Dioxide on the Respiration of the Goldfish, by W. A. Osborne and Edith Muntz. Tensions of carbon dioxide greater than 1·7 per cent. of an atmosphere produced temporary inhibition of respiration in the goldfish comparable with the closure of the glottis in mammals. Rise of the fish to breathe near the surface was induced by a tension of carbon dioxide varying from 3·2 to 4 per cent. of an atmosphere. The sequence of narcotic manifestations produced by carbon dioxide in the goldfish is cessation of voluntary movement except when irritated, loss of head to stream reflex, and loss of equilibration. 4. A Note on the Osmotic Effect of Various Strengths of Different Salts upon Cell Volume, by Herbert E. Roaf, M.D. Toronto, British Medical Association Scholar. Dr. Roaf's experiments on tadpoles have led him to the conclusion that the current view that when plasmolysis occurs the solution used is isotonic with the cell contents needs careful revision. 5. A Contribution to the Study of the Digestive Gland in Mollusca and Decapod Crustacea, by Herbert E. Roaf, M.D. Toronto. 6. Variations in the Hydrochloric Acid of the Gastric Contents in cases of Carcinoma in Man, by F. W. Morton Palmer, M.A., M.B. Cantab. Of 13 cases of non-gastric carcinoma only two showed effective gastric acidity. 7. The Staining Act, an Investigation into the Nature of Methylene blue-eosin Staining, by J. O. Wakelin Barratt, M.D., D.Sc. Lond. Dr. Barratt finds the staining act of this colouring agent dissolved in alcohol is a chemical reaction and whether dissolved in alcohol or water exhibits colloidal characters. 8. Secretin in Relation to Diabetes Mellitus, by F. A. Bainbridge, M.A., M.D. Cantab., of Guy's Hospital, and A. P. Beddard, M.A., M.D. Cantab., of Guy's Hospital. 9. Further Observations on the Treatment of Diabetes Mellitus by Acid Extract of Duodenal Mucous Membrane, by Benjamin Moore, M.A., D.Sc.; Edward S. Edie, M.A., B.Sc., Carnegie Research scholar; and John Hill Abram, M.D. Lond., of the Royal Infirmary, Liverpool. The administration of the extract of the duodenum was in some instances very beneficial in diabetes. The last part (No. 10, October, 1906), contains the following articles: 1. On Glycosuria caused by Excess of Carbon Dioxide in the Respired Air, by Edward S. Edie, M.A., B.Sc. The conclusions to which the author has been led from his experiments on rabbits, dogs, and cats are that the glycosuria found after partial asphyxiation is not due, as hitherto supposed, to lack of oxygen but to the high percentage of carbon dioxide in the respired air; the presence of from 10 to 15 per cent. of carbon dioxide by volume in the respired air leads to glycosuria even if the proportion of oxygen in the air be increased; a reduced percentage of oxygen as low as to 6 per cent. unaccompanied by increase of carbon dioxide never leads to glycosuria; the anæsthesia caused by carbon dioxide is probably due, as in the case of other anæsthetics, to the combination of the anæsthetic with protein setting free the carbohydrate. 2. Trypsin and Antitrypsin, by S. G. Hedin. 3. An Antitryptic Effect of Charcoal and a Comparison between the Action of Charcoal and that of the Tryptic Antibody in the Serum, by S. G. Hedin. This part completes the first volume of the *Bio-Chemical Journal* and contains the title-page and table of contents.

Man.—In the September number a short paper on various native customs followed in some of the Solomon Islands in the South Pacific is contributed by Mr. C. M. Woodford. The paper is illustrated by three-quarter length portraits of individuals tattooed in elaborate patterns. The tattooing needle consists of the wing bones of the frigate bird and the colouring medium is made from the charred nut of the calophyllum inophyllum.

Red Cross and Ambulance News.—This new journal, which is described in its sub-title as the official organ of the St. Andrew's Ambulance Association and Corps, makes its first appearance this month. The St. Andrew's Ambulance Association received its charter of incorporation in 1899 and has its headquarters in Glasgow, so that ambulance work in the northern division of the kingdom is the principal feature of the present issue, but the editor promises that Red Cross matters in general will be dealt with. The first article is a plea for Red Cross Work, by Sir John Furley, C.B., and the second one is on Red Cross Work in Scotland, by Dr. George T. Beatson. There is also an illustrated description of a motor ambulance wagon built by Argyll Motors, Limited, of Alexandria, Dumbartonshire, and recently acquired by the association for the Glasgow district service. The new journal is published at the offices of the association, 176, West Regent-street, Glasgow.

THE NATIONAL TEMPERANCE LEAGUE.—The Jubilee Celebration and convention of the National Temperance League, which was instituted in 1856, was held on Monday, Oct. 22nd, in the Council Chamber, Caxton Hall, Westminster. On Tuesday, Oct. 23rd, a special meeting was held at the Mansion House under the presidency of the Right Hon. the Lord Mayor. The speakers included Miss Agnes Weston, so well known for her admirable work in connexion with the navy, the Right Hon. Lord Methuen, Mr. J. Herbert Roberts, M.P., and Dr. C. F. Harford. On the same day at the convention sitting at 10.30 A.M. in Sion College Hall Section I. was devoted to "Science and Education." The president of the section is Sir W. H. White, K.C.B., F.R.S., and the vice-presidents are Professor G. Sims Woodhead and Mr. W. McAdam Eccles. The associate is Dr. T. N. Kelynack.

THE LANCET.

LONDON: SATURDAY, OCTOBER 27, 1906.

The Harveian Oration.

THERE are few exercises more edifying or more stimulating to advance than a historical study of the gradual evolution and growth of a great truth; indeed, the knowledge of the previous work regarding any particular subject is part of the necessary training for anyone working at that subject, and such historical study forms an essential to the earnest scientific worker in almost all departments of knowledge, whether speculative or experimental. In the brilliant and inspiring Harveian oration delivered before the Royal College of Physicians of London by Professor WILLIAM OSLER on Oct. 18th a real service has been rendered to the profession of medicine in a manner wholly admirable. The subject chosen by the Harveian orator was the Growth of Truth as illustrated in the Discovery of the Circulation of the Blood. Professor OSLER has a world-wide reputation as an accomplished physician, a charming essayist, and a brilliant orator, but we can imagine him almost overwhelmed by the magnitude of the task which he set himself to perform; indeed, he himself confesses so much, for while the main facts concerning HARVEY'S great work have been told, and well told, times without number, the study of the actual growth and progress of the truth which he nunciated towards general acceptance requires a knowledge of contemporary seventeenth-century thought and manners hard indeed to come by. To say that success has attended his efforts is hardly to express our opinion of the really great address delivered by Professor OSLER, for it is at once both a literary and a philosophical feast. Professor OSLER has a distinct and pleasing style; he is often epigrammatic and frequently allusive with suitable quotations, while he brings a reverence for his subject and a vivid imagination to bear in his descriptions which compel attention. When he lingers with an almost affectionate regard to describe the great lecture at which HARVEY'S discoveries were first given forth and to picture the actual members of his audience and their probable feelings toward the new doctrine which they then heard for the first time, he becomes vividly realistic and gives a picture of contemporary medical life hard to surpass. But it is the philosophical rather than the descriptive character of the oration which compels attention. It is important for all scientific workers to realise that in science there can be no such thing as absolute truth; the finite character of human knowledge must of necessity render the presentation of a truth at any time relative. It is, indeed, "conditioned by the state of knowledge at the time of its announcement," and therefore as general knowledge advances the statement of the truth may alter as presented in terms of that knowledge. Adopting Professor OSLER'S happy illustration, we may say that truth, like a living organism, grows and "may suffer all the hazards incident to generation and gestation." On the other hand, though truth frequently in its progress and growth meets with opposition, and indeed with delays and even retrogressions, its ultimate triumph is one of the certainties of human endeavour.

PLATO in the "Theaetetus" describes three states of knowledge—acquisition, latent possession, and conscious possession, and in such three stages Professor OSLER maintains the growth of truth may be followed. He illustrates this by the history of the knowledge of syphilis—centuries of acquisition until during the last quarter of a century we have obtained latent possession of the cause, recently brought to the stage of conscious possession in the brilliant discovery by the lamented SCHAUDINN of the spirochæta pallida. So, again, in regard to the cancer problem, we are in the stage of latent possession awaiting "the final touch—the crystal in the saturated solution—to give us conscious possession of the truth." These same three stages are admirably illustrated in the history of the discovery of the circulation. The rich acquisitions of the sixteenth century—notably the work of VESALIUS in giving to medicine a new and accurate anatomy, followed by the anatomical researches of FALLOPIUS, COLUMBUS, and FABRICIUS—had prepared the way for a newer physiology; but in spite of this advance on the anatomy of GALEN his physiological views reigned supreme and were not in any sense disturbed until the general acceptance of HARVEY'S work towards the middle of the seventeenth century. GALEN knew of the lesser circulation but his views of the functions of the heart and arteries remained unassailed until HARVEY'S lecture on April 17th, 1616, although for years there had been practically a latent possession of the knowledge of the circulation, for even HIPPOCRATES himself seems to have had some "glimmerings" of its existence, as had also both SARPI and CAESALPINUS, while in the sixteenth century SERVETUS and COLUMBUS fully recognised the lesser circulation. Professor OSLER, in tracing the actual conscious possession of the truth of the general circulation by HARVEY and his demonstration of it by the method of experiment, the "Inventum Mirabile" of DESCARTES, and the "Novum Organum" of BACON, rightly regards the application of this new method as the great advance made by HARVEY rather than the actual demonstration of the circulation made by it. It was in "the addition of the hand as an instrument of the mind" in the acquisition of knowledge that the great merit of HARVEY'S work lay.

A most interesting section of the oration is devoted to a brief analysis of the educational career of HARVEY at Cambridge and at Padua. Professor OSLER likes to think that at Caius College the memory of JOHANNES CAIUS may not have been without influence in directing the energies of the young student from Folkestone. But that his interest in the study of the heart and blood-vessels was aroused and fostered by his association at Padua with FABRICIUS there can be little doubt, for FABRICIUS at that time was deep in the study of the anatomy and embryology of the vascular system and published his celebrated work "De Venarum Ostiolis," in which he regarded the valves as checks or dams to the flow of blood, so that it would not irrigate too rapidly and overflow the peripheral vessels to the deprivation of the upper part of the limbs. It may well have been, thinks Professor OSLER, this ingenious speculation which suggested to HARVEY the true explanation which he so triumphantly demonstrated after long years of work. One of the most striking characteristics of some of the greatest of investigators and thinkers has been their extraordinary reticence in regard to their discoveries or even reluctance to publish their work until years after it has been carried out. Among the notable examples of this quoted in the oration we find COPERNICUS who is said to have kept back his "Treatise of Revolutions" for 30 years; NAPIER who spent 20 years developing the theory of logarithms; BACON who kept his "Novum Organum" for 12 years; ISAAC NEWTON who having discovered the secret of the "cosmic circulation" waited 20 years before publishing his "Principia"; and DARWIN who allowed 17 years to elapse before bringing out his "Origin of Species." It is therefore no surprise to find HARVEY allowing 12 years to pass after his lecture before publishing his work "De Motu Cordis," his reason apparently having been the dread of the opposition and prejudice to views so subversive of the generally accepted and old-established doctrines. It is an interesting fact to find that the great minds so vastly in advance of their fellows often voluntarily wait long years for the time to ripen for the acceptance of their views before expounding them. The study of the subsequent history of the views of HARVEY until their general acceptance affords the usual story of misconception, of prejudice, and of opposition, and is graphically and succinctly sketched by Professor OSLER. He tells us that the publication of the book in 1628 created no great stir; only one work was written criticising it from the Galenical standpoint—namely, that published by PRIMROSE in 1632, while not until 1641 was a special treatise in favour of HARVEY'S work produced—that by Sir GEORGE ENT, his pupil and friend. At Oxford and Cambridge HARVEY'S views soon found acceptance, at the latter through the championship of the celebrated GLISSON and subsequently of WALLIS, but many years elapsed before the new views found their way into the text-books of the day. In 1651, however, HIGHMORE, a pupil of HARVEY, gave an able exposition of his master's views and urged his readers to study the original work. In Holland and Germany HARVEY'S work found an earlier acceptance than in France, partly, no doubt, due to the strenuous advocacy of DESCARTES. In France, however, the opposition of men like GUI PATON and of RIOLAN delayed the general acceptance, so that official recognition in that country was postponed until 1673, when LOUIS XIV. founded a special chair at the Jardin des Plantes for the propagation of HARVEY'S work. So serious was the opposition of RIOLAN, an old friend, of HARVEY, that on two occasions we find the latter replying to his criticisms but RIOLAN could not be convinced and remained to the end opposed. This attitude of mind towards new discoveries which subvert established and old ideas is one which has persisted to our own day and although new discoveries are more quickly assimilated it may be doubted if this is owing to any greater receptivity on our part; rather is it due to the greater array of workers and the greater hurry of to-day. There is, indeed, a sadness in Professor OSLER'S statement of the almost universal occurrence of the tyranny of the established, a sadness the greater for its general accuracy. "Sooner or later," he says, "insensibly, unconsciously, the iron yoke of conformity is upon our necks and in our minds, as in our bodies, the force of habit becomes irresistible. From our teachers and associates, from our reading, from the social atmosphere about us, we catch the beliefs of the day and they become ingrained—part of our nature. .. ... How eminent soever a man may become in science he is very apt to carry with him errors which were in vogue when he was young—errors that darken his understanding and make him incapable of accepting even the most obvious truths."

This memorable oration shows us one of the means of counteracting such a spirit of narrowness for a study of history—the biography of the mind of man, as Professor OSLER epigrammatically defines it—is perhaps the best antidote to the narrow outlook and is most likely to preserve the open mind. In no profession more than our own is such a study of value; indeed, the medical practitioner should always be acquainted with the history of the great names of his profession. We may recall that CHAUCER'S Doctour of Phisyk[1] was not behind in this respect:—

> "Well know he olde Esculapius,
> And Deiscorides and eek Rufus;
> Old Ypocras, Haly and Galion;
> Serapion, Razis and Avicen;
> Averrois, Damascion and Constantyn;
> Bernard, and Gatesden and Gilbertyn."

But Professor OSLER'S oration deserves a far wider hearing than that of the medical profession. It can be read with advantage by scientific workers in any field of inquiry, for it teaches many lessons and, indeed, contains the very alphabet of the scientific worker. It teaches persistence, patience, and the broad outlook upon all problems and inculcates freedom from prejudice and the slavery of conventional thought.

Food Inspection.

No disinterested person will deny that a high standard of excellence should be maintained with respect to our food-supplies. Under existing conditions this can only be done by a system of thorough inspection. Hitherto it has been considered only too frequently that the object of inspection has been achieved by the detection and destruction of meat and other foodstuffs which were found to be capable of causing definite and specific diseases. It is time that this erroneous impression should be corrected and in the discussion on food inspection at a recent meeting of the Incorporated Society of Medical Officers of Health reported in our issue of Oct. 20th, p. 1071, Dr. GEORGE NEWMAN struck quite the right note when he said that it was essential to a healthy physical life that the food consumed should be both nutritious and palatable and that the real object of administrative control and inspection was to secure a pure food supply. There was some difference of opinion among the medical officers of health present at the meeting referred to as to whether inspection, more especially as regards meat and milk, should be at the source of the supply or when the particular food was deposited for sale. Dr. NEWMAN insisted very strongly that it should be on both occasions. It appears to us that the view which he takes is the correct one; for it must not be forgotten that meat and milk and prepared foods, such as sausages and tinned meats, require to be examined not only as to their intrinsic nutritive value but also with respect to the conditions under which they are produced and stored until they ultimately reach the hands of the consumers. Inspection to be thorough, and thoroughness is surely what we aim at, should begin at the source and should be carried right through to the place of sale. Where meat is concerned it will no doubt be found necessary to abolish private slaughter-houses and to replace them by public abattoirs. Already in many large towns the latter are in use but in very few places has private slaughtering been entirely done away with. Even in those towns where local Acts of Parliament provide for the compulsory closing of private slaughter-houses difficulties have arisen owing to the uncertainty as to what compensation should be paid to the displaced owner. The advantages of, nay the necessity for, public slaughter-houses being admitted it may well be asked whether the time has not arrived for the compulsory closing in urban districts of all private slaughter-houses either with compensation to the owners or by placing a time limit to their use. It may be contended that this would drive some of the town butchers into the adjoining rural districts where, inspection being lax, meat of an indifferent quality would find its way into the towns. Such a result has indeed happened to a small extent in Cardiff where no private slaughtering is carried on. One method of preventing this is the adoption of a system of marking sound meat after inspection in the manner advocated by Sir SHIRLEY F. MURPHY so long ago as 1898.

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[1] Canterbury Tales, Prologue, lines 429, et seq.

We have spoken of possible lax inspection in rural districts and this leads us to insist upon the importance of uniformity of administration. The existing conditions have been described as chaotic. To quote Dr. NEWMAN, "In one district there is a meat inspector, in another there is not; in one district one method of practice obtains, in another quite a different method or no method at all." It might perhaps be worth while for those whose business it is to remedy this chaotic and supremely unsatisfactory condition to inquire whether it is in any way connected with the terms under which many medical officers of health are appointed. Many of them come up annually for re-election at the hands of an electing body some members of which may hold views upon meat inspection not altogether in accordance with those of the health officer. It cannot be denied that in this as in the other duties assigned to the medical officer of health it is of the utmost importance that his independence of action should be absolutely assured. The qualifications and previous training which go to make a successful meat inspector are questions which require serious consideration. Some medical officers of health, including Dr. EDWARD WALFORD, are of opinion that he should be a veterinary surgeon and it appears that in Cardiff, upon the request of the local butchers, the corporation appointed a chief meat inspector who had veterinary qualifications. There are others, again, among whom are Dr. W. COLLINGRIDGE and Dr. NEWMAN, who place first in importance practical training as a butcher, though they do not ignore the advantage of veterinary knowledge. Except in a few of the large towns, where specially qualified meat inspectors are employed, an inspector of nuisances may at any moment be called upon to decide in the first instance whether certain pieces of meat or fish are or are not unsound or fit for human consumption. It is true that he has the medical officer of health to appeal to in cases of difficulty but in large country districts such an appeal may be difficult of accomplishment. The examiners of the Royal Sanitary Institute and of the Sanitary Inspectors' Examination Board have of late years insisted upon a high standard of knowledge with respect to unsound meat but there must still be many inspectors of nuisances holding office who have only a very superficial knowledge of the appearance of meat and fish which is unfit for food.

During the past few years there has been an enormous increase in the consumption of prepared meats and tinned meats and their very mode of preparation and style of distribution have increased the difficulties of inspection. That inspection is needed is evident from a recent report of Mr. A. WYNTER BLYTH in which he states that upon examining six samples of brawn from Chicago he found them filthy, containing dirt, bits of straw, woody fibre, hair, hogs' bristles, shreds of skin with the bristles attached, and other matters, giving the impression that some portion of the contents were made up of floor sweepings. An English sample was nearly as bad. Dr. NEWMAN has also recorded the presence of tuberculous pus in sausages, diseased horse-flesh in potted meat, and decomposing animal matter in potted salmon and shrimps. At present the prinicipal inspection of this kind of food is when it is placed on sale in the shops. But this surely is a clumsy, unscientific, and utterly ineffectual form of inspection. The easiest, most scientific, and most effectual method would be by inspection from the very beginning, starting with an examination of the animal before slaughter. If such a thorough and rigorous inspection as we have indicated is to be enforced the question arises whether the cost entailed should be borne by the local sanitary authority in whose area are situated the premises requiring inspection or whether the Imperial funds should not bear at any rate a proportion of the charge. The whole question of food inspection is a wide and complicated one and it is bound up with side issues which render it necessary to deal with it in no narrow and parochial spirit but in a broad and comprehensive manner. Dr. NEWMAN'S paper and the discussion which it evoked cannot fail to be of service in solving some of the problems which surround the subject.

Medical Men and Municipalities.

BEFORE the next number of THE LANCET comes into the hands of our readers the first day of November will have brought with it the election of municipal authorities throughout the country, and it is hardly necessary to say that no other section of ratepayers, and consequently of electors, possesses such facilities for the exercise of sound judgment in relation to the choice and support of candidates as those which flow from the practice of the medical profession and from the knowledge of public requirements which that practice brings. It is lamentably true that, in an been, thinks Professor Osler, this ingenious speculation which suggested to Harvey the true explanation which he so triumphantly demonstrated after long years of work. One of the most striking characteristics of some of the greatest of investigators and thinkers has been their extraordinary reticence in regard to their discoveries or even reluctance to publish their work until years after it has been carried out. Among the notable examples of this quoted in the oration we find Copernicus who is said to have kept back his "Treatise of Revolutions" for 30 years; Napier who spent 20 years developing the theory of logarithms; Bacon who kept his "Novum Organum" for 12 years; Isaac Newton who having discovered the secret of the "cosmic circulation" waited 20 years before publishing his "Principia"; and Darwin who allowed 17 years to elapse before bringing out his "Origin of Species." It is therefore no surprise to find Harvey allowing 12 years to pass after his lecture before publishing his work "De Motu Cordis," his reason apparently having been the dread of the opposition and prejudice to views so subversive of the generally accepted and old-established doctrines. It is an interesting fact to find that the great minds so vastly in advance of their fellows often voluntarily wait long years for the time to ripen for the acceptance of their views before expounding them. The study of the subsequent history of the views of Harvey until their general acceptance affords the usual story of misconception, of prejudice, and of opposition, and is graphically and succinctly sketched by Professor Osler. He tells us that the publication of the book in 1628 created no great stir; only one work was written criticising it from the Galenical standpoint—namely, that published by Primrose in 1632, while not until 1641 was a special treatise in favour of Harvey's work produced—that by Sir George Ent, his pupil and friend. At Oxford and Cambridge Harvey's views soon found acceptance, at the latter through the championship of the celebrated Glisson and subsequently of Wallis, but many years elapsed before the new views found their way into the text-books of the day. In 1651, however, Highmore, a pupil of Harvey, gave an able exposition of his master's views and urged his readers to study the original work. In Holland and Germany Harvey's work found an earlier acceptance than in France, partly, no doubt, due to the strenuous advocacy of Descartes. In France, however, the opposition of men like Gui Paton and of Riolan delayed the general acceptance, so that official recognition in that country was postponed until 1673, when Louis XIV. founded a special chair at the Jardin des Plantes for the propagation of Harvey's work. So serious was the opposition of Riolan, an old friend, of Harvey, that on two occasions we find the latter replying to his criticisms but Riolan could not be convinced and remained to the end opposed. This attitude of mind towards new discoveries which subvert established and old ideas is one which has persisted to our own day and although new discoveries are more quickly assimilated it may be doubted if this is owing to any greater receptivity on our part; rather is it due to the greater array of workers and the greater hurry of to-day. There is, indeed, a sadness in Professor Osler's statement of the almost universal occurrence of the tyranny of the established, a sadness the greater for its general accuracy. "Sooner or later," he says, "insensibly, unconsciously, the iron yoke of conformity is upon our necks and in our minds, as in our bodies, the force of habit becomes irresistible. From our teachers and associates, from our reading, from the social atmosphere about us, we catch the beliefs of the day and they become ingrained—part of our nature. ...... How eminent soever a man may become in science he is very apt to carry with him errors which were in vogue when he was young—errors that darken his understanding and make him incapable of accepting even the most obvious truths."

This memorable oration shows us one of the means of counteracting such a spirit of narrowness for a study of history—the biography of the mind of man, as Professor Osler epigrammatically defines it—is perhaps the best antidote to the narrow outlook and is most likely to preserve the open mind. In no profession more than our own is such a study of value; indeed, the medical practitioner should always be acquainted with the history of the great names of his profession. We may recall that Chaucer's Doctour of Phisyk[1] was not behind in this respect:—

"Well know he olde Esculapius,
And Deiscorides and eek Rufus;
Old Ypocras, Haly and Galien;
Serapion, Razis and Avicen;
Averrois, Damascien and Constantyn;
Bernard, and Gatesden and Gilbertyn."

But Professor Osler's oration deserves a far wider hearing than that of the medical profession. It can be read with advantage by scientific workers in any field of inquiry, for it teaches many lessons and, indeed, contains the very alphabet of the scientific worker. It teaches persistence, patience, and the broad outlook upon all problems and inculcates freedom from prejudice and the slavery of conventional thought.

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[1] Canterbury Tales, Prologue, lines 429, et seq.

Annotations.

"Ne quid nimis."

BOGUS INSPECTORS.

A YOUNG man, aged 25 years, who at the recent sessions at Newington pleaded guilty to thefts of jewellery of considerable value, had obtained admission to the houses in which he committed his robberies by representing himself to be a sanitary inspector. In the case which resulted in his arrest he called at about dinner-time and on hearing his story a servant maid admitted him. When, however, her mistress heard of the visit of the "sanitary inspector" presumably it struck her that the powers vested in the local authority could hardly warrant the arbitrary and causeless invasion of her house at such an hour and she asked to see the man who, finding that he was likely to be questioned, fled and was promptly captured. It was proved by the police that he had made robbery from dwelling-houses his speciality, and as umbrellas and overcoats in the halls of houses to which he could procure admission had at one time been the object of his depredations it seems probable that medical men have before now had reason to regret his visits. As a rule, however, in these his earlier days he had entered surreptitiously houses the front doors of which happened to be open. More recently, by representing himself to be a sanitary inspector and by relying upon a certain want of caution and reasoning power not unusual in the domestic maid-servant and sometimes to be found even in her better educated mistress, he had embarked upon more profitable adventures, and Londoners are to be congratulated that for 12 months he will be kept out of mischief. We live in an age of many improvements, in which sanitary authorities and other agencies unknown to our forefathers protect us in our own interest from dangers to which we were once indifferent. Public health Acts, Acts of Parliament regulating the sale of food and of drugs, factory Acts, Acts regulating the supply of water and of light, and other beneficial and useful statutes are responsible for the existence of officials whose titles are familiar to all, but the limitations of whose powers and the distinguishing symbols or insignia by which they themselves may be recognised, are more or less unknown to the ordinary citizen. There are also public bodies and private associations, such as those which endeavour to prevent cruelty to children and to animals, which furnish their "inspectors" and agents with uniforms or badges capable of being imitated. The result of these innovations and of the respect of the law-abiding citizen for the "inspector" or other official with an equally awe-inspiring title, is that from time to time designing persons are tempted to play a part which will open doors to them more certainly and with less immediate danger than the jemmy or the skeleton key, or will enable them to lay hands upon their victim's money without the physical insertion of a larcenous finger in his pocket. In such a case as that described the object is simply to gain access and, if fortune favours, to steal, and as domestic servants are not likely to distinguish readily between genuine and pretended documents purporting to endow their holders with authority it is simpler to warn them to admit no such official stranger to the house without orders to do so from their employers than to recommend them to discriminate. The employer, on the other hand, must exercise discretion and a little questioning will usually show conclusively whether the person claiming admission should be permitted to enter without further inquiry. When admitted he can always be accompanied by a servant, and as the operations likely to be suggested by a genuine or even by a bogus "inspector" must almost necessarily be confined to lavatories and other offices which do not usually contain valuables the precaution of accompanying the "inspector" will usually protect the householder in any event. Those who by some default of their own, as for instance, traders who deal in adulterated goods, lay themselves open to another form of robbery—that of blackmail—have themselves to thank if they are victimised. To them we can only say that the honest have nothing to fear from the law, and even the dishonest can usually retaliate with considerable effect upon anyone who endeavours to extort hush-money. As we have suggested above, the laws which expose the unwary to the ingenuity of the sham official are in themselves enactments which have been, and are, of considerable benefit to the community and it is to be hoped that severe sentences will in all cases be inflicted upon the rascals who convert them into sources of loss and annoyance to honest citizens.

THE THIRTY-FIFTH ANNUAL REPORT OF THE LOCAL GOVERNMENT BOARD.

THE thirty-fifth annual report of the Local Government Board was issued this week and is signed by Mr. John Burns who was appointed President a few months before the official year ended in March last. We must reserve for a future number any extended treatment of the various departmental matters with which the report deals. We notice that certain changes in the staff are announced, of which the following are of interest to the medical profession. Dr. Alan B. Green, the assistant bacteriologist at the glycerinated lymph laboratory, was succeeded by Dr. Donald George Sutherland who, however, resigned during the year, the appointment being filled by the assistant bacteriologist, Mr. John Sherwood New. In connexion with the arrangements requisite to give effect to the Sale of Food and Drugs Act, 1899, a sub-department for the inspection of foods was established and was placed as a temporary arrangement under the direction of Dr. George Seaton Buchanan, one of the medical inspectors, who was appointed inspector of foods. Dr. J. Spencer Low has temporarily filled the vacancy caused by Dr. Buchanan's appointment. Not the least interesting section of enormous majority of cases, this choice and support are determined by what are broadly called political considerations—that is to say, by the adherence of the candidates to one or another of the prominent political parties which may at the time be struggling for general ascendency in the State; and it would seem to be manifest that such an adherence affords no guarantee either of a comprehension of municipal necessities or of a capacity to supply them if they were comprehended. The effects of the present system of election are various, and one of the most conspicuous of them is the fact that the control of a municipality happens to be a common stepping-stone to the Imperial Parliament; and another, not less important, is that municipal contests are largely training grounds for Parliamentary ones, and as such afford many opportunities to those who take part in them of acquiring at least the beginnings of local political power and influence. There is no more common complaint, among either real or *soi-disant* medical reformers, than that such influence is wanting to the profession, and that, as a not unnatural consequence, its most legitimate aspirations receive but slender support from those who might easily contribute to their realisation. In such circumstances can there be any doubt that it would be the part of wisdom, among medical practitioners generally, to follow the example of their neighbours, and to make their opinions felt in municipal elections, not only for the sake of promoting the success of the best candidates, as judged by their probable capacity for fulfilling the duties to be committed to them, but also for the sake of exerting influence in contests which, after all, are not only foreshadowings of more important ones, but are also preparations for them in the organisation and control of the machinery by which they are conducted, or by which local opinion is controlled or guided. We cannot but regard it as a duty on the part of every medical man who thinks that increased parliamentary influence would be serviceable to the profession to endeavour to promote its attainment through the comparatively humble means afforded by the municipal elections. A clear recognition of the needs of the locality and an impartial estimate of the probable contribution of each candidate towards their fulfilment must give weight to the opinions of the medical man expressing them, and enhance the value of these opinions when afterwards expressed with regard to questions of wider scope. It is impolitic to despise the day of small things; and it should not be forgotten that municipal contests are the training grounds of Englishmen in political thought, and the arenas in which the aspirant to political power may often first learn to tread warily and firmly.

Municipalities are infinitely varied, but it would perhaps not be impossible to arrange them under a comparatively small number of types. Some are ambitious; and their ambition usually assumes the form of a desire to commemorate their own period of office by some kind of permanent local improvement. Another type is that which seeks "economy" at all costs as exhibited in places in which conditions opposed to public health or decency are suffered to continue year after year without any effort being made for their improvement. The Medical Department of the Local Government Board has lately published many of the reports of its inspectors as soon as they have been sent in, and we need not go beyond those of the current year in order to find abundant or even appalling evidence of the neglect of primary duties by some municipalities, even by those whose attention has again and again been officially called to their misdoings. Insufficient and polluted water, houses unfit for human habitation, accumulations of excrement, deficiencies of drainage, neglected vaccination, filthy cowsheds, systematic non-observance of by-laws, the lack of means for the isolation of infectious disease, and a high rate of infantile mortality, are the ordinary counts in the indictments brought by the inspectors against the localities upon which they have been required to report. The "sanitary state and administration" of a large number of districts in England have been officially described in terms which indicate not only the deliberate intention of those in authority to avoid the performance of duties imposed upon them by the legislature, but also an almost pathetic ignorance of the certain consequences of their actions. For it must be remembered that the reports of the inspectors are only called for in cases in which the attention of the Board has already been directed to the results of maladministration. The local rate of mortality, or the recurrence of epidemics, or the defective character of the reports received from local officials, has in most cases furnished the immediate and direct stimulus to the inquiry by which the facts have been brought to light.

Dr. JOHNSON once attributed to "pure ignorance" a mistake into which he had fallen, and it is by no means improbable that a similar excuse might constantly be urged in extenuation of the shortcomings of municipalities. FARADAY pointed out that the people who were ready to decide without knowledge concerning the causes of physical phenomena "might be really very acute and correct in things familiar to them," and it is manifest that a man may be an excellent butcher, or baker, or candlestick maker, a declared Liberal, or Unionist, or Socialist, or Labour man, and a pillar of his party in the district in which he lives, who is yet absolutely incapable of becoming a good member of a local authority. As regards matters appertaining to the local health and welfare, which are the chief, if not the sole, concerns of a municipality, he is often too ignorant to be competent and his local political ascendancy often renders him too conceited to learn. It is in respect of the qualifications which the ratepayers should seek from their representatives that the public, speaking generally, stand most in need of instruction, and this instruction the medical profession should be in a position to afford. The objections to affording it individually might in great degree be obviated by collective action, and local medical societies might often endeavour to instruct and to modify public opinion by means which might not at first be conducive to the prosperity of individual practitioners. There have been instances in which such societies have invited the public to meetings where questions of public interest were to be discussed; and such meetings should afford valuable means of imparting instruction in general principles with only the slightest reference to individuals. The ratepayers of a place like Dewsbury, who have had to pay £20,000 in one also to the general luxuriance of the vegetation and the rapidity of its growth. He states that none of the natives of the islands visited possessed any iron but that they made implements of stone, many of them handsome and well finished. The discovery of gold in various places and the despatch of parties to explore and to search for mines he also relates and explains that on their return the ships would be able to carry back such a quantity of gold as to fill with amazement all who heard of it. After his return to Spain Dr. Chanca published in 1506 a treatise on the treatment of pleurisy and a Latin commentary on a book by Dr. Arnaldo de Villanova entitled "De Conservanda Juventute et Retardanda Senectute." In a footnote to Dr de Ybarra's paper Dr. Carl H von Klein of Chicago quotes from a letter written by Columbus to the King in reference to Dr. Chanca, in which he writes of the "continual labour that Dr. Chanca has undergone from the prodigious number of sick and the scarcity of provisions, and that in spite of all this he exhibits the greatest zeal and kindness in everything that relates to his profession." Columbus goes on to point out the sacrifices made as regards income and personal comforts by Dr Chanca and to explain that he has fixed his salary at 40,000 maravedis per annum, exclusive of his maintenance, and to ask the Royal sanction to this expenditure. Dr. de Ybarra is to be congratulated on the interesting paper which he has produced on one who appears to have been not only a capable practitioner and naturalist but a really great man. It forms an interesting contribution to the medical history of America.

ANCIENT MEDICAL MSS. FROM SYRIA.

Professor Jalabert of the University of St Joseph at Beyrouth, in preparing a corpus of inscriptions of Roman times in Syria has come across several referring to medical men, though considering the teeming population of that country in the early centuries of our era and the numerous inscriptions of all kinds discovered therein the record of physicians is singularly poor. He gives one from Gebal, the ancient Byblos, a city famous in the time of the Egyptian medical papyri for its knowledge of the healing art, as were Berytos and Antioch in Roman times, and seven others from various other sites. Some of these have been published by Herr Rudolfus Pohl last year in his "De Græcorum Medicis Publicis," who there prints a list of all ἀρχιατροί and proves that this title was of Syrian origin. In the same volume of "Mélanges de la Faculté Orientale" of the "Université Saint Joseph, Beyrouth," Professor Jalabert gives a list of monuments relating to the worship of "Æsculapius" found in Syria, giving also reproductions of photographs of several bas-reliefs representing the deity. It is strange, considering the identification by the Greeks and Romans of Æsculapius with the Semitic god, Eshmoun, that hitherto but few monuments and inscriptions relating to him have been found in Syria. The texts at present number only five, the largest of which, found in 1905, associates him with the deity Salus, as is often the case elsewhere. Two of the sculptured figures of the god depict him as a Roman officer but the accompanying serpent emblem decides his identity. A third relief only just discovered also delineates him as a warrior. These monuments of what may be termed the military Æsculapius are all found east of the Jordan along the boundary of that part of the Roman Empire and were doubtless erected by soldiers residing there or frontier colonist veterans who had retired from the ranks. One similar monument, however, has been described by Mr H. C. Butler from Central Syria. In Italy, and certainly at Rome, the majority of devotees erecting monuments or inscriptions to Æsculapius were soldiers or veterans. His title in some of these texts is "Æsculapius Castrorum," proving a special cult of the deity in the legionary camps, a worship not surprising to anyone who knows the terrible mortality from disease and battle which consumed the Roman armies. The auxiliary troops and mercenaries were purposely placed on frontiers far away from their native country, so that soldiers from hot climates were quartered in Britain and Northern Europe, whilst troops from these regions were, as in the case of Hadrian's Jewish war, transferred to the torrid shores of Syria, the object being to prevent desertion or any sympathy with the natives on the frontier with whom there might be hostilities. Further, the gradual extinction of the Roman peasantry by legionary service is well known.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE official lectures will be delivered at the Royal College of Physicians of London, Pall Mall East, on each of the following Tuesdays and Thursdays at 5 P.M. On Tuesday, Nov. [illegible]th, Dr S. J. Sharkey will deliver the Bradshaw lecture, the subject being Rectal Alimentation. On Thursday, Nov. 8th, and Tuesday, Nov 13th, the FitzPatrick lectures will be delivered by Dr. Norman Moore, the subject being the History of the Study of Clinical Medicine in the British Islands. On Nov. 15th the Horace Dobell lecture will be delivered by Dr. F. W. Andrewes, the subject being the Evolution of the Streptococci.

THE HYPOCHLORITES AS DISINFECTANTS.

IT does not appear that the methods hitherto proposed for the standardisation of disinfectants have so far been reduced to that state of uniformity which is desirable before a line can be drawn which shall separate absolutely the worthless from the trustworthy. Tests to be of any value at all must obviously be based on practical and not exclusively theoretical considerations. In practice it is not the pure culture with which we are concerned; it is the pathological product—a typhoid or cholera stool or tuberculous sputum. The chemist would broadly class such products as organic matter and, at any rate, he knows that such matter is likely to interfere with the intensity of the antiseptic agent in a number of ways. It amounts to this, that the best disinfectant must not only be a powerful germicide but it must also be compatible, so far as possible, with the organic matters inseparable from the excreta of disease. For comparative purposes, of course, the observed effect of certain chemical agents on pure active cultures gives us valuable information. The experiment may record a high germicidal equivalent but the introduction of readily decomposed or attached organic matter into the experimental field may clearly upset the calculation. Such a consideration apart, however, it would be a great gain to sanitary science if a line of experimental investigation could be adopted by all those who are endeavouring to place disinfectants in their proper category according to their merits or demerits, so that at least the results would show some agreement. As it is, we find, to give one example, that a well-known authority on bacteriological matters states that, on the one hand, a certain solution of hypochlorite of soda of definite strength is sufficient to devitalise non-sporing microbes in sewage, or any similar fluid, in ten minutes, while another says of a similar fluid that all hypochlorites are unstable and in presence of organic matter untrustworthy disinfectants. The same inconsistent statements appear in regard to the same chemical agent in a more striking way in the modern method of expressing the germicidal value of disinfectants in terms of the so-called carbolic acid equivalent. According to one investigator the carbolic acid equivalent of a given fluid which contains as its active constituent hypochlorite of soda is practically nil or not the report is that dealing with the Order of the Local Government Board issued in September last year establishing distress committees and a central body for London under the provisions of the Unemployed Workmen Act, 1905. In the report dealing with Poor-law administration reference is made to the circular forwarded in February last year to boards of guardians and others bringing to their notice an extract from the rules of the Central Midwives Board regulating admission to the roll of midwives under Section 2 of the Midwives Act, 1902. There are interesting reports from the Board's inspectors as to the condition of pauperism and the administration of relief in their districts. In the public health section of the report statistics of public vaccination are given. As regards the administration of the Sale of Food and Drugs Act, the returns show that of 3232 samples of drugs examined 292 were rejected, giving a percentage of 9 as compared with 11·3 in 1904. The proportion of samples of food reported to be adulterated was 8·2 per cent. which was the average percentage for the three years from 1902 to 1905 inclusive. Milk continues to show a rate of adulteration equal to 10 per cent. of the samples examined. Comment is made on the system of sampling which in many instances is obviously defective. In regard to the metropolitan water-supply, Dr. T. E. Thorpe, C.B., F.R.S., reports that it appears that the conditions of the Thames and Lea, from which by far the greater portion of the metropolitan water-supply is obtained, were last year fairly favourable to the operations of the Water Board, although at certain times the qualities of the supplies were adversely affected by floods. Other parts of the public health section of the report refer to imported plague, infectious diseases, and the housing of the working classes. The report of the medical officer, however, will appear as a supplement to the present volume.

THE DECLINE OF THE KITCHEN RANGE: A CAUSE OF INSANITARY DUSTBINS.

THE increasing use of gas for cooking purposes threatens to abolish one of the most important functions of the kitchen range—namely, that of a cremator of combustible garbage in the shape of potato-peelings, tea-leaves, bones, and so forth. The gas-stove is not likely to take the place of the kitchen range as a dust destructor and cremator, and this fact, in view of the substitution of the gas-stove for cooking purposes, may prove to be a serious menace to the family hygiene. The dustbin which is not fed also with salutary ashes, which serve to absorb and to cleanse offensive matters, will inevitably become an intensified nuisance, for its contents will consist of readily fermentable and decomposable material. There will be, so to speak, no dilution of putrescible organic matters with inoffensive ashes. As Mrs. Charles Marshall of cookery fame points out in a communication which has reached us, the careful housewife for the sake of economy, if not on sanitary grounds, instructed her servants to feed the kitchen fire with all pestilential rubbish, and the maids, who found it easier to empty their dust-pans into the kitchen fire than to carry the dust to the dustbins, followed out the general principle of destroying the germ-laden dust. If the question of burning the rubbish is brought before the dweller in flats, in which gas stoves are so largely used for cooking purposes, the invariable answer is that the rubbish is taken away by the caretaker every morning. But there must be an appalling accumulation of rubbish in the general receptacle which sooner or later must become offensive. The tenants of the flat are thus at the mercy of the dust collector. The dustbin should never be the receptacle for moist decomposable substances such as peelings and tea-leaves which rot and give off offensive and unwholesome smells. Mrs. Marshall suggests that in a house where there is a copper-hole the refuse might be burnt each afternoon and at the same time hot water would be obtained which could be used for "washing up" purposes. Otherwise the householder should go back to the kitchen fire for the sake of cremating organic waste and protecting the atmosphere of his home from the evils arising from an accumulation of readily decomposable household rubbish. The question is, we think, a very important one in connexion with the preservation of the hygiene of the household.

A FORGOTTEN MEDICAL WORTHY.

WHEN Christopher Columbus made his second voyage to America in the year 1493 he was accompanied by Dr. Diego Alvarez Chanca of Seville, a distinguished practitioner who held the position of physician in ordinary to the King and Queen of Castile and Aragon. He was specially appointed by the Spanish monarch to accompany the expedition, which numbered 1500 persons, among them various distinguished and aristocratic Spaniards. In the *Journal of the American Medical Association* of Sept. 29th Dr. A. M. Fernandez de Ybarra of New York city contributes an interesting article on this expedition and the part played in it by Dr. Chanca. He gives some interesting extracts from a letter written by Dr. Chanca to the municipal authorities of Seville, describing the voyage and giving observations on the flora, fauna, ethnology, and anthropology of the parts visited by him. Columbus's first expedition consisted only of three small caravels, carrying in all 120 persons; the second was much larger, consisting of three great galleons or carracks and 14 caravels of different sizes and was intended to effect a permanent settlement in the land discovered on the first voyage in the previous year. A very comprehensive equipment, including 20 horses for the lancers accompanying the expedition, was carried on board these vessels. Dr. Chanca's medical skill was in frequent request, not only for Columbus himself, who suffered from typhus fever on one occasion and from malarial fever on another, but also for many of the Spanish hidalgos who accompanied him. The letter from which Dr. de Ybarra quotes was written at the port of Isabella during the last days of January, 1494; it left that port on Feb. 2nd in charge of Don Antonio de Torres whom Columbus sent back with 12 vessels to Spain, arriving on April 8th, 1494. Dr. Chanca describes the departure from Cadiz on Sept. 25th, 1493, and the arrival at Grand Canary about six days later, and the first sighting of land at dawn on Nov. 3rd. He states that the voyage would have been several days shorter if the *Capitana*, a galleon of 400 tons carrying the admiral's flag, had been as seaworthy as the other boats. The pilots estimated the total voyage at 1100 leagues (equivalent to about 2829 English miles). The joy among the people at sight of land was great, for Dr. Chanca describes them as wearied of bad living and of working the water out of the leaky ships. The extracts given by Dr. de Ybarra from Dr. Chanca's letter further show him to have been a most accurate and keen observer. He describes the islands of Hispaniola or Santo Domingo and the formation of the settlement of Isabella, about the site of which his professional advice was consulted, and mentions the islands of Gandeloupe, Dominica, and Martinique. He further gives his reasons for thinking that other islands existed some 40 leagues beyond, which proved to be correct, for Trinidad was subsequently discovered about that distance away. He describes the habits and customs of the fierce and cannibalistic Caribbee Indians and refers to their habits as beastly. The fauna and flora he describes most carefully. He refers to the wax palm, cotton trees, nutmeg, ginger, and aloes as growing in these islands, and a valuable part of a well-balanced diet and may be advantageously eaten in even larger quantities than at present. In some circumstances vegetarianism may be of value but the ordinary healthy individual is best suited by a mixed diet.

ANEURYSM OF THE AORTA WITH SLOW EXTRAVASATION OF BLOOD INTO THE PERICARDIUM.

RUPTURE of an aneurysm into the pericardium usually is immediately fatal but there are certain rare exceptions. In the *Australasian Medical Gazette* of August 20th Dr. J. C. Verco has reported the following remarkable case. A man, aged 41 years, was admitted into hospital on June 27th, 1906, complaining of severe pain in the front of the chest and extending as low as the epigastrium. He was taken ill on the 21st with severe pain low in the abdomen on the left side. He went to bed, applied hot fomentations, and took pills which acted on the bowels three times. On the 22nd he was well enough to get up. On the 24th pain in the chest began; it persisted until the 26th, when it diminished, but after that any movement caused it to recur and it was aggravated by deep breathing. For ten or 12 years he had had pains in the chest at intervals, for which he would lie in bed for a day or two. On examination on the 28th the pulse was 104, regular, small, and compressible. The respirations were 44, shallow, and painful. The veins of the neck were distended and there was arterial pulsation in the suprasternal notch. The cardiac impulse was impalpable but there was a marked diastolic shock. Cardiac dulness began at the fifth left cartilage and extended for one and a half inches to the left of the sternum. On the right of the sternum from the second space downwards was a dull area about three-quarters of an inch wide and from the fourth cartilage downwards the dulness curved outwards and downwards to a maximum of one and a half inches from the right border of the sternum, and below it curved inwards above the liver dulness. The sternum was resonant between the two areas of cardiac dulness. At the right cardiac base the second sound was ringing and was accompanied by a slight diastolic murmur. In the mitral area both sounds were somewhat muffled. Pleural friction was heard to the right of the sternum over the dull area and outwards as far as the nipple. Posteriorly there was impaired resonance from about an inch below the angle of the scapula. In this area the vocal fremitus was weaker than above, though stronger on the left side, and the respiratory murmur was weak. The epigastric and right hypochondriac regions were tender. On admission the temperature was 101·5° F., on the next day it was 100°, and on the following day 98·4°. It fell to 97°, at which it remained for 12 hours before death. This took place on the 30th. At the necropsy a patch of recent pleurisy was found on the front of the right chest. Both pleural cavities contained excess of serous fluid. The pericardium was enlarged and contained a large quantity of dark fluid blood in the meshes of light reddish-brown, fibrinous, soft material which united the visceral and parietal pericardium throughout. The ascending and transverse parts of the arch of the aorta were dilated. From the back of the descending part an aneurysm two inches in diameter sprang. It was filled with ante-mortem clot. For the next three inches the aorta was very atheromatous and contained large, easily separated, calcareous plates. The aortic valves were not diseased. Less than an inch above the posterior aortic cusp was a small aneurysm filled with ante-mortem clot and communicating with the pericardium by a small aperture. Death was manifestly due to perforation of this aneurysm into the pericardium. Perforation could not have occurred suddenly, for it would have caused almost instant death. Blood must have slowly entered the pericardium, allowing time for it to be whipped up by the cardiac movements and the fibrin to be separated. The oozing probably began with the onset of pain on the 24th and continued until death—a period of six days. Such slow oozing was explained by a firm ante-mortem clot which filled the aneurysm. The patient was seen during life only once by Dr. Verco and the diagnosis was aortic regurgitation with some dilatation of the vessel and localised pleurisy. The dilatation was thought to be indicated by the upper part of the dulness to the right of the sternum, the suprasternal pulsation, and the diffuse diastolic shock at the right cardiac base. Dilatation of the right auricle was supposed to account for the more extended dulness lower down, and enlargement of the left ventricle for the dulness to the left of the sternum. Evidence of aortic aneurysm was sought but could not be found. The small size and position of the aneurysms explained this. It is noteworthy that pericardial friction, which was looked for, could not be found.

COFFEE WITHOUT CAFFEINE.

A CORRESPONDENT recently wrote to us asking whether we knew of a coffee grown in Madagascar which on analysis proved to be free from the stimulating principle caffeine but contained instead a bitter substance called cafamarine. We applied to the Director of the Imperial Institute, Professor Wyndham R. Dunstan, for the information and he has courteously replied to our letter and has supplied us with the following facts which we think are interesting enough to merit publication. In 1901 M. Gabriel Bertrand published the results of an examination of the beans of a species of coffee, *Coffea Humblotiana*, which grows in Great Comoro Island near Madagascar; the beans were remarkable in containing no caffeine. In the same year he described a resinous bitter principle occurring in these beans, to which he gave the name "cafamarine." He examined the beans of ordinary coffee, *Coffea Arabica*, grown in the same island, and found that they contained a normal proportion of caffeine, thus proving that the absence of caffeine in the beans of *Coffea Humblotiana* was not the effect of soil or climate. In 1905 he published analyses of the beans of three new species of wild coffee—namely, *Coffea Gallienii*, *Coffea Bonnieri*, and *Coffea Mogeneti*, collected on Amber Mountain in Madagascar. These also were found to contain no caffeine and to contain a bitter principle identical with, or analogous to, cafamarine. He considers from this that the absence of caffeine in *Coffea Humblotiana* cannot be due to some accidental pathological cause but must be a specific property of the tree.[1] These facts seem to us to raise an interesting point in regard to the analysis of coffee for the purposes of the Sale of Food and Drugs Acts, for it is generally held that the presence of caffeine is a proof of genuine coffee. In view of the above facts it would be difficult to maintain that the absence of caffeine proved that there was no coffee present.

SPLENIC ABSCESS IN MALARIAL FEVER.

WE have received a reprint of an article published in the *Indian Medical Gazette* in June of this year by Major A. R. S. Anderson, I.M.S., on the above subject. Major Anderson draws attention to the remarks of previous writers on malarial fever, indicating how rarely an abscess is found in the spleen in connexion with this disease. For instance, Dr. Morehead, in his "Researches in Disease in India," in discussing splenic disease in intermittent fever, states more than 0·2, while another says it is 20. The enormous difference between these figures is of some importance in sanitary administration and the discrepancy, with whomsoever it lies, should be cleared up. On another page in our present issue we publish an interesting paper on the question of the disinfectant properties of the hypochlorites and in particular of the fluid obtained by the electrolysis of a salt solution. The electrolysed fluid obtained in the Hermite process and later the fluid produced at the Hermite installation in Poplar have from time to time been the subject of experiment by our own Commissioners who have reported to us that this fluid as it is now prepared is stable for all practical purposes, and, further, that samples of broth which had received comparatively small quantities of electrolysed saline solutions even after several weeks contained a sufficient amount of available chlorine to be titrated in the form of iodine with arsenious acid or thiosulphate of soda. We have recently confirmed these results, mixing with the fluid milk in one case and urine in the other. The writers of the paper referred to, however, report that a mixture of equal volumes of the electrolysed fluid and human urine when left in contact for an hour gave no reaction with sensitive potassic iodide starch paper. This is a little difficult to understand, since after several hours the mixtures which we have prepared have invariably exhibited a very powerful chlorous odour. Whether or not, therefore, the germicidal action of an electrolysed solution of hypochlorites is ultimately effected through the union of nascent oxygen with the protoplasm of the germ, as suggested by the writers, the fact remains that for a long time afterwards the mixed fluid gives off a very pungent chlorous odour and, further, sets free iodine from potassic iodide. As to the stability of the electrolysed fluid the writers found that a solution showing originally 0·355 per cent. of available chlorine showed at the end of two months a strength of 0·319. The loss of chlorine, therefore, was only 0·036 gramme in two months and with somewhat stronger solutions they would probably have found the slight loss of strength even less than this. We believe with Dr. Klein, in spite of statements to the contrary, that the hypochlorites are powerful disinfectant agents even when employed in the presence of sewage or other organic matter. Moreover, they are true deodorants, which cannot be said, of course, of those antiseptic preparations the basis of which is a coal-tar derivative. The interests of sanitary science are not best served by ignoring the claims of every disinfectant preparation but one.

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[1] Further information is contained in the following publications: Comptes Rendus de l'Académie des Sciences, Paris, 1901, vol. cxxxii, p. 162; 1905, vol. cxli, p. 209; Bulletin de la Société Chimique, 1901, third series, vol. xxv., p. 372.

THE IDLE THAMES STEAMBOATS: A SUGGESTION.

IT is in the winter that the atmosphere of London is prone to be most impure and it is in the winter that the London County Council's steamboats are idle. This idleness represents a considerable loss to the ratepayers and the machinery and gear of the boats do not improve by being kept inactive. The wear and tear of active service would keep them in better working order and the bearings, cranks, and shafts would probably deteriorate less if they were kept in motion. It seems a pity that so much motive power should be floating useless on the river for so many months of the year. Why cannot this force during the winter be employed in another direction? The steamboats are not wanted in the winter but the engines might be used for some other and profitable purpose. It would surely not be a difficult matter, for instance, to take off the paddle-wheels and to engage the shaft on a dynamo for electric-lighting purposes at various points on the river. The steamers might also be used for purifying the atmosphere and turned into ozonisers placed at various points on the river. Their combined action might even be directed to the dissipation of fog. Much of the fog in London owes its birth to the river, and if the rise of vapours and mists could be stopped then the great annual London evil might to some extent be mitigated in this way. It is known that powerful electric discharges cause the minute particles of mist to join together, forming drops which, falling to earth, clear the air. Possibly the whole fleet could supply enough power for the lighting of the Embankment or for part at any rate of the new electric tramway which is in course of construction there. The engines of the steamers might even be employed for charging accumulators to supply the motive power for electric cabs at a moderate charge. Machinery not in motion is an anachronism and a curious commentary on a body of municipal legislators who are proud to be called progressive.

FRUIT AND ITS USES AS FOOD.

IN a bulletin published by the Department of Agriculture of the United States Mr. C. F. Langworthy, Ph.D., of the Office of Experiment Stations describes the dietary value of fruit in a comprehensive way. With a view to learn something more definite regarding the possibilities of fruits as sources of nutrients, the relative cost of nutrients supplied by fruits and other foods, and the digestibility of a fruit diet as compared with an ordinary mixed diet, extended investigations were undertaken. The diet consisted of definite quantities of apples, bananas, oranges, dates, honey, olive oil, almonds, pine nuts, and walnuts. From these studies it was found that the diet of the women and children furnished from 32 to 43 grammes of proteid and from 1190 to 1430 calories of energy per day, the cost ranging from 15·7 cents to 27·5 cents (from about 7½*d.* to nearly 1*s.* 2*d.*). Considering these studies on the basis of the amount eaten per man per day the results obtained with the women and children when calculated on this basis showed a range of from 47 to 80 grammes of proteid and from 1850 to 2805 calories of energy, the cost of the daily food ranging from 21 to 55 cents (from about 10½*d.* to about 2*s.* 3½*d.*) per head per day. In the studies with the young and the old men the proteid supplied by the daily diet ranged from 40 to 85 grammes and the energy from 1712 to 3305 calories, the average being 62 grammes of proteid and 2493 calories, the cost ranging from 18 to 47 cents (from 9*d.* to nearly 2*s.*) per person per day. These amounts are considerably less than have been found on an average with families living in many different regions of the United States, but on the other hand in many of the dietary studies made under the auspices of the Office of Experiment Stations it has been found that persons living on a mixed diet have received amounts directly comparable with those supplied by a fruit diet. These experiments made in California by Professor Jaffa are far too limited to draw any hard-and-fast conclusions in regard to a diet solely of fruit, but his investigations seem to show that fruits and nuts should not be regarded simply as food accessories but should be considered a fairly economical source of nutritive material. Studies as to digestibility of fruit indicated that as a class ripe fruits are thoroughly digested. The conclusions arrived at as the result of experiments carried out by the United States Office of Experiment Stations and other investigators are that fruits are wholesome, palatable, and attractive additions to our diet and may be readily made to furnish a considerable part of the nutrients and energy required in the daily fare. It may be pointed out, however, that in order to receive the nutritive equivalent of a mixed diet containing amongst other things meat, a very large and inconvenient quantity of fruit would have to be consumed. Fruit alone contains a relatively small proportion of nutrients. Intelligently used, fruits are sensibility to painful stimuli. The immediate effects of the injection are in the great majority of cases negligible. The patient often becomes indifferent to his surroundings, sleepy, and apathetic. Headache and vomiting are not infrequently met with at a later stage. Various writers have described a transient paresis of the fourth and sixth cranial nerves, seemingly due to a specific action of stovaine and novocaine. In two or three cases dyspnœa and even failure of respiration have been noted and sometimes persisting paræsthesiæ. On the other hand, it may be said that every week the number of successful "rachistovainisations" is increasing and their increase is a convincing proof of the practicability and value of the method. The relative well-being of the patient during the operation and the absence of shock cannot be gainsaid, while the importance of modified anæsthesia in cases of nephritis, cardiac disease, diabetes, arterio-sclerosis, pulmonary affections, and so on, is obvious. In all acute and chronic diseases of the spinal cord, in children under 14 years of age, and in the weak-minded the procedure is contra-indicated. Also it should be borne in mind that failure to produce anæsthesia by intraspinal injection occurs in a certain number of cases and that after-effects are at times very severe and persistent. These, from the nature of the method, cannot be provided against or alleviated. "Aseptic" meningitis, although rare, has in some instances occurred and the possibility of its supervention must be taken into account.

SOME MODES AND MEANS OF NUTRITION.

IN beginning the course of lectures on Physiology in the University of Manchester on Oct. 3rd Professor W. Stirling delivered a lecture on "Means and Modes of Nutrition," with special application to animals. Bernard pointed out the fundamental identity in the nutritive process in animals and plants and has shown the large part played by ferments in both vegetable and animal nutrition. When we trace the story, however, we find that Count Gleichen Russwurm in 1777 fed infusoria artificially with carmine, and saw that it was ingested; he had struck upon a fact which it required the genius of a Metchnikoff to apply. Corti observed that the infusorian Stylonichia when deprived of food became more transparent and less granular. Ehrenberg by repeating the carmine feeding experiments was led to his almost-forgotten polygastric theory as applied to infusorians. Haeckel long afterwards when injecting an invertebrate found that the leucocytes of its blood took up into their bodies the black particles of the injection. Cohnheim utilised this fact in his classical experiments on inflammation. It was, however, the study of the daphnia, a water flea infested with the spores of Monospora, that led Metchnikoff to his famous theory of phagocytosis. It is not improbable, as Haeckel suggests, that the sensitive and travelling leucocytes of our invertebrate ancestors have powerfully coöperated for millions of years in the phylogenesis of the advancing animal organisation. These "eating cells" do exactly what amœba and its allies do—digest their food by the aid of intracellular ferments. The observations of Krukenberg, Fredericq, and Verworn, and the pupils of Metchnikoff, and in our own country those of Miss Greenwood, Dr. Griffiths, and others, have made us familiar with intracellular digestion as it occurs in protozoa and cœlenterates. Engelmann observed that blue litmus particles became red in the vacuoles of amœba and its allies. Subsequent observers used neutral red and other sensitive reagents for the same purpose. It is a relatively easy transition from intracellular to extracellular digestion. Both depend on the existence and activity of specific enzymes. The intracellular digestion of protozoa serves a double purpose: the nutrition of these organisms and the protection of them against infective parasites. This latter idea led to the theory of natural immunity due to cellular digestion. The problem of digestion is intimately related to that of chemotaxis, or more especially to that variety called by Stahl "trophotropism," both positive and negative. It would seem that ferments characterised by their specific action play the leading rôle both in intracellular and extracellular digestion. Early in the zoological scale nature introduces the barbed dart to impale and to paralyse the victim. Subtle poisons are used to kill or to paralyse the victim which is destined to form food for the offspring of certain insects. The poisonous substance is usually injected into the most vulnerable part of the nervous system, whereby the victim is apparently dead yet liveth, so that nature has found a means of keeping the "meat" fresh for the ravenous grub by a method in part comparable to the cold storage process; for the larvæ of certain insects the prey is kept fresh until such time as the grub is ready to use it.

A TELEGRAM from the Governor of the Mauritius received at the Colonial Office on Oct. 19th states that for the week ending Oct. 18th there were 28 cases of plague and 21 deaths from the disease. As regards Queensland the Department of Public Health in a bulletin dated Sept. 15th states that no case of plague has occurred in Brisbane since June 20th. With respect to Cairns the patients under treatment are progressing favourably. During the week ending Saturday, Sept. 15th, 2 cases of suspected illness were reported and are being kept under observation.

THE Committee for the Study of Special Diseases in the University of Cambridge announces that Mr. G. W. Nicholson, M.A., B.C., of Jesus College, Cambridge, and Guy's Hospital, London, has been appointed to the R. C. Brown Scholarship in Special Pathology.

LORD ROSEBERY ON THE INSANE AND THEIR COST.

Lord Rosebery's personality as a Scot is highly appreciated by his fellow countrymen. He has few equals in the art of happily portraying in appropriate and sympathetic phrase the multiform phases of our social and domestic life; and his speeches in this connexion are usually listened to with pleasure and acceptance on all hands. When, as Lord Lieutenant of Linlithgowshire, he formally opened, on Oct. 3rd, the village asylum at Bangour for the accommodation ultimately of 1000 patients at a cost of £300,000, it might well have been thought that the occasion was one to which he would do full justice. But, having been called upon to bless a work fraught with great possibilities for good, he did little more than damn it with a faint praise and then passed on to make gloomily pessimistic remarks upon matters which had little or no connexion with the day's proceedings. The climax of the situation was not reached until he in effect told his hearers that the "enormous expenditure" of money upon the insane was a blunder and of the nature of a stumbling-block, and that the outlay would be infinitely more useful if it went to civilise the negroes of Central Africa or even to improve the homes of the British artisan classes.

Lord Rosebery's remarks at the opening ceremony were brief and delightfully cryptic; and he certainly shadowed forth no inkling of the feast of reason that was in store for the company in what he referred to as his "post-prandial speech." We think they should be preserved and therefore give them in full:—

> Ladies and Gentlemen,—By the command and on behalf of the Edinburgh Lunacy Board, I have the honour of declaring this asylum open. I shall not add any remarks at this time, because I think that a building devoted to the alleviation of the acutest form of human distress is best opened by the beautiful prayer to which we have just listened. But I will add, as a resident of Linlithgowshire, this thought—How strange it is that the rocky ridge from which emerged that sweet poet, ripe scholar, and adventurous Jacobite—Hamilton of

"abscess I have never seen." Professor W. Osler, in the article on Malaria in Professor Clifford Allbutt's "System of Medicine," and Sir Patrick Manson in "Tropical Diseases" (first edition) make no mention of the disease. During the past five years 73,991 cases of malarial fever, with 230 deaths, have passed under the review of Major Anderson in the convict hospitals at Port Blair, while 3446 cases of the same disease, with five deaths, were admitted during the same period to the police hospital, and 512 cases entered the Andamanese and free hospitals. Of these 77,949 patients only two were recognised during life to be suffering from abscess of the spleen. On examining the available post-mortem records of death from malaria Major Anderson found that in three instances only was splenic abscess present. A good account is given of the two cases in which an abscess in the spleen was correctly diagnosed during life. One of the patients recovered, whilst the other died. The patient who recovered was a Hindu male, 25 years of age, who was admitted into hospital for fever and enlarged spleen in April, 1901. A few days after admission marked tenderness, spontaneous pain, and slight localised bulging over part of the anterior border of the spleen, accompanied by fever of a low remittent type, led to the suspicion of abscess of the spleen. The diagnosis was confirmed by puncturing the organ with a small aspirating needle. An incision was then made through the abdominal wall over the most prominent part of the swelling and about one pint of reddish pus was evacuated. Free irrigation with sterilised water was made and on inserting a couple of fingers to discover the limits of the abscess cavity and to feel for possible neighbouring abscesses, an odourless slough of splenic tissue, 270 grains in weight, was removed. Two drainage-tubes were inserted and complete recovery resulted. A considerable number of authors who have made observations on abscess of the spleen attribute the disease to infarction of this organ. Major Anderson states that three of his five cases add support to this belief. It is considered that splenic abscesses are the result of pyogenic infection but the source from which the infection is derived is not at all evident.

THE SANITARY CONDITION OF DARTMOOR VILLAGES.

IN a report to the Local Government Board on the Tavistock rural district, lately issued, Dr. R. Deane Sweeting gives a disquieting account of the condition, from a health point of view, of many of the villages about Dartmoor which are dear to the tourist and the holiday maker. The occasion of his inquiry was an outbreak of diphtheria at Princetown, and the facts obtained in this instance and in regard to similar occurrences in other villages in the Tavistock rural district show a very lax state of affairs in dealing with infectious diseases. Where such cases are reported it appears that the inquiries made have often been perfunctory or that no notice has been taken, with the result that schools have not been closed at a time when closure would have been of special value, or, as in the case of the epidemic of diphtheria at Princetown, the prevalence of disease has been attributed to circumstances which more careful inquiry would have shown to have had nothing to do with the occurrence of the outbreak. Children suffering from diphtheria and scarlet fever are in all cases left at their homes during illness as there is no hospital provision. Practically speaking, no attempt is made by the sanitary authority to secure proper disinfection of rooms, clothing, or bedding. The inspector of nuisances leaves the matter of disinfection to the private practitioner or contents himself with providing the householder with a bottle of disinfectant. Dr. Sweeting indicates that more can hardly be expected of the present officer in this matter on account of age and physical infirmities. The work of the medical officer of health also receives considerable criticism in this report. Dr. Sweeting states that this officer, who has held the office for 15 years, "has an imperfect knowledge of the district," and "is almost entirely dependent on the inspector of nuisances for such knowledge as he has." A vigorous protest against Dr. Sweeting's observations was made by the medical officer of health at a recent meeting of the Tavistock rural district council, at which the question of re-appointment of the medical officer and the inspector was raised. As a result of the discussion a committee was appointed to consider the questions brought to notice by Dr. Sweeting's report. It is clear that the district council ought not to rest content with settling the question of its sanitary staff and adopting reasonably efficient methods to deal with reported cases of infectious disease. Dr. Sweeting's report shows that there is need for a change of policy and improved administration in various other sanitary matters. Houses in this district have been erected or rebuilt without due certification of their having been provided with an available supply of wholesome water. Certain of the villages and collections of dwellings have water supplies which are inadequate and in some cases the purity of the water is open to considerable suspicion. Attention is drawn in the report to various nuisances resulting from unsatisfactory methods of disposal of sewage and house refuse and to the need for supervision of the condition of the cowsheds and slaughter-houses of the district, many of which seem at present to be far from satisfactory.

SPINAL ANÆSTHESIA IN SURGERY.

CONSIDERABLE improvement has recently been made, both in England and on the continent, in the procedure for the induction of spinal anæsthesia which has come to be known as Bier's method, although so long ago as 1885 Corning injected a 2 per cent. solution of cocaine between the eleventh and twelfth dorsal vertebræ and succeeded in rendering the lower half of the body anæsthetic. One modification has been the substitution for cocaine of less toxic substances, such as stovaine and novocaine, and their combination with some form of suprarenal extract. In a succinct *résumé* of the technique in the *Neurologisches Centralblatt* of Oct. 1st Adler recommends Jacoby's plan of joining the highest points of the iliac crests by an imaginary line and passing the needle or trocar through the intervertebral space immediately above. This is bounded usually by the second and third lumbar spines. There can be no doubt that puncture exactly in the middle line is preferable, for by this means the operator is less likely to injure the roots of the cauda equina, and at the same time the risk of producing merely a hemianæsthesia will be minimised. Once the cerebro-spinal fluid is seen to be escaping in its ordinary clear state, one or other of the following solutions is injected into the cisterna terminalis *viâ* the trocar:—

Solution 1.		
Stovaine	0·08	gramme
Adrenalin	0·00025	"
Sodium chloride	0·0022	"

Solution 2.		
Novocaine	0·2	gramme
Sol. suprarenini borici (1 in 1000).	6	minims
Sodium chloride ...	0·018	gramme

For operations on the perineum and lower limbs, four to six centigrammes of stovaine or one decigramme of novocaine is requisite; for the abdomen, six or eight centigrammes of stovaine or one and a half decigrammes of novocaine. The patient lies with his pelvis slightly elevated, and after about four minutes anæsthesia is established which persists for about an hour or one and a half hours. The earliest change is loss of the tendon reflexes, then the sense of pain goes from the legs and buttocks, then the sense of temperature and the muscular sense disappear, next the cutaneous reflexes, and, finally, the scrotal reflex. Cocaine apparently removes only the

Scotland has always been to the forefront in lunacy administration and in all that pertains to the advancement of our knowledge in the pathology and treatment of insanity. Bangour village is well equipped in every respect for carrying out its high and humane purpose and the chief feature in its scheme is the avoidance, so far as possible, of everything suggestive of restraint.

We congratulate the "City Fathers" of Edinburgh and the Commissioners in Lunacy on their work, and if it should occur to the minds of some people that the initial expenditure of its construction has been a trifle costly, even to excess, who will blame the lunacy authorities if they think the little additional comforts advisable for their patients! Nay, rather would we, with Dr. Clouston, have it "counted to them for righteousness." In this connexion the thought must be ever uppermost in our minds that just as it is the duty of a father and mother to do their utmost for the weaklings of their family so must the public accept and carry out its pecuniary responsibilities for the care of the insane to whom it stands *in loco parentis*.

THE ANNUAL REPORT OF THE MEDICAL INSPECTOR OF PRISONS FOR THE YEAR 1905-06.

THE annual report of the Commissioners of Prisons and Directors of Convict Prisons for the year ended March 31st, 1906, contains *inter alia* the report of the medical inspector with the usual statistical tables regarding the health of the prison population.

The total number of prisoners (including debtors and persons committed in default of sureties) received into the local prisons of England and Wales during the year was 217,326, being 2603 less than the figure for the previous year. The daily average population was 18,288—viz., 15,377 males and 2911 females. 6241 prisoners, being 3·8 per cent. of the total number received during the year, were treated in hospital and a further 17,426 were under continuous medical care out of hospital for periods of seven days and over. The total number of deaths in the local prisons during the year amounted to 112, of which 85 were due to natural causes, the balance being made up by 16 judicial executions, nine suicides, and two deaths ascribed to non-natural causes, one being due to accident and one resulting from poisoning by phosphorus taken with suicidal intent prior to imprisonment. Of the 85 deaths from natural causes, 69 were of males and 16 of females. Calculated per 1000 of prisoners received this gives a death-rate of 0·37, which is the lowest yet recorded. The most considerable individual cause of death was pulmonary tuberculosis, which accounted for 16 cases, this being rather below the number recorded last year but approximating pretty closely to the average figure for the preceding 16 years. In all but three of the cases the presence of the disease was recognised when the individuals were received into prison. During the year 89 prisoners were released on medical grounds, the bulk of them being women in an advanced stage of pregnancy. The humane practice of releasing women in this condition and so averting from the children the stigma of prison birth is highly to be commended. In this connexion it is pointed out by the medical superintendent of Holloway prison, as a singular and regrettable anomaly, that while advanced pregnancy is accounted by the Secretary of State a sufficient reason for the release of a convicted criminal it does not appear to be always regarded by magistrates as adequate ground for bailing an untried prisoner; in two instances of child-birth in the above-named prison last year the mothers were unconvicted defendants remanded from the police courts.

In the course of the year 35 cases of infectious disease were reported in the local prisons—viz., 21 cases of erysipelas, six of enteric fever, four of scarlet fever, three of diphtheria, and one of mumps. In 14 of the cases of erysipelas the disease appeared to have originated after reception into prison, and as six of these cases occurred in Wandsworth prison, special attention has been paid to the sanitation of that institution and steps are being taken to bring it up to date. Most of the other cases of infectious disease were proved to have been infected prior to their reception into prison. The very low death-rate in the local prisons and their relative freedom from infectious disease reflect great credit on the medical department, especially when it is borne in mind that the majority of these prisons date from a time when sanitary science was still in its infancy, and when, moreover, as Dr. H. Smalley aptly points out, it was apparently supposed that the moral reformation of the prisoner was assisted by stinting him of light and air.

The number of prisoners certified insane in the local prisons during the year amounted to 129, giving a rate of 0·59 per 1000 received. Of these prisoners, 73 were found to be mentally unsound on admission and 27 more exhibited symptoms of insanity within a month of reception. This fact may be taken to show that under existing conditions imprisonment has no detrimental effect on the mental health of the criminal population, and that such insanity as occurs during incarceration is mainly attributable to the morbid predisposition of the individuals affected. And this view, it may be noted, is also supported by the facts regarding suicide; thus, of the nine prisoners who committed suicide during the year, three were on remand, and of the others all but one killed themselves within a month of conviction. While these facts are very satisfactory as a proof that the system of penal discipline at present in force does not involve any risk of inducing insanity, they suggest, on the other hand, that the mental condition of accused persons ought to be investigated more carefully before they are brought to trial.

In addition to those certified insane, 354 prisoners were found to be so defective mentally as to be unfit for the ordinary prison discipline. Cases of this sort are treated under special rules which are described as working satisfactorily, but Dr. Smalley is careful to add that such prisoners cannot be properly dealt with in institutions intended for sane offenders and that in their own interest no less than in that of society some more rational way should be found for disposing of these criminal defectives.

With regard to the class of juvenile offenders whose treatment has latterly been the object of special attention it is mentioned that a scheme has been devised for recording systematic observations as to the physical and mental characteristics of all prisoners received between the ages of 16 and 21 years. This scheme has not yet been in operation long enough to warrant any positive conclusions from the data that have been ascertained, but so far as the indications can be made out they show that the adolescent criminals are, on an average, below the physical standard of the population at large, and that in a remarkably high percentage of them there is an alcoholic, epileptic, or insane taint in the stock. It is satisfactory to note that the medical officers of the several prisons where juvenile-adult offenders are treated under what is known as the Borstal system are able to report that the ample diet, the regular industrial training, the daily drill, and the other sound hygienic influences which are essential features of this regimen are found to produce a rapid and considerable improvement in the physical and mental development of these youths.

In the convict prisons the daily average population during the year was 3135, 2994 males and 141 females, and the total number of deaths during the year was 18, 16 males and two females. One death was due to accident and the remaining 17 to natural causes, thus giving a death-rate of 5·4 per 1000 of the daily population. 19 convicts were certified insane. There were no deaths from suicide.

MEDICINE AND THE LAW.

Advice Gratis Refused.

AN amusing dialogue recently took place at the North London police court between Mr. Fordham and an applicant who sought his advice. Medical practitioners are so frequently the victims of those who are well able to pay for their aid, but who endeavour to obtain it without doing so, that they will appreciate the motives which led the learned magistrate to adopt an unsympathetic attitude. The person who thought himself entitled to an opinion handed up a document addressed to himself with the suffix "Esquire." This caught Mr. Fordham's eye at once. "I think," he said, "that an esquire should pay for legal advice. I only sit here to give advice to the poor." This produced a protest that the applicant was not rich and Mr. Fordham read the document further, only to

> Bangour—who will be immortalised, if for nothing else, by his exquisite ballad of the "Braes of Yarrow," should now be crowned by an asylum devoted to the relief of intellectual disability. It exemplifies the line that "Great wits to madness often are allied," and I hope that the buildings we are opening to-day will be as fruitful in good and as beneficent in result as the most imaginative poet could ever hope for his works.

As the "sweet poet" played on the rocky ridge some two hundred years ago the appropriateness of the exemplification and of the alliance is not very clear, and few of us are in the happy position of being able to estimate the possible hopes of the "most imaginative poet" as to the goodness or beneficence of his works.

After luncheon, Lord Rosebery dealt with the lunacy problem from a variety of aspects and pictured it in anything but roseate hues. He quoted from the recent report of the English Commissioners in Lunacy figures showing the large increase in the number of the notified insane, but overlooked the reassuring statemen tmade by the Commissioners in the same report that this is an increase only in the number of those persons who are detained under care and "does not necessarily imply an increase in *insanity*." Again, while passing under review some possible remedies for insanity his lordship announced that he was one of those who think that "the perfect equilibrium of the faculties which is represented by the idea of sanity is a possession, not of the majority, but of a comparatively trifling minority, of the human race"; but what that had to do with the solemnly suggested remedies for insanity, or why, if any such contention is correct, the question of remedy should come up at all we quite fail to see; while the "laughter and applause" that followed the announcement must be taken as an indication that some of the "trifling minority" were present and that Scotsmen are not after all so devoid of a sense of humour as some ill-natured persons have represented them to be. But the essence and serious business of the speech were reserved for the financial aspect of the question—viz., the cost of asylums, and in order that no injustice should be done by curtailment of his expression of opinion we quote his remarks as given in the *Scotsman* of Oct. 4th, the day after the opening.

> What an anxiety [said his lordship] is this lunacy! What an expenditure on buildings and of money it represents! On Jan. 1st, 1904, we find that the capital invested in lunatic asylums in the United Kingdom amounted to no less than £24,500,000. The annual expenditure on the keeping of lunatics and so forth was £3 500,000 or nearly—and this is the vast barren fact that you have to face—that this money is paid by the nation, not for those from whom it can have any hope in the future, or, generally speaking, in whom they can have any confidence as good citizens and subjects, but for those who represent sheer waste and sheer decay. It is for this that we are building these sepulchres of living humanity, these tombs of the intellectually dead. I see constantly details of how this money or that could be better spent. The Uganda Railway is a popular topic of comparison, and when my more inflammatory friends on the platform have a topic to which they can usefully point as a subject of the expenditure of money which could be better spent elsewhere, they usually take the Uganda Railway. (Laughter.) But a thousand Uganda Railways, even if they convey but a few passengers to bring civilisation into the heart of Africa, are infinitely more useful than this expenditure on the intellectually dead. (Hear, hear.) If we can check or diminish that expenditure we shall indeed be happy.

And again, addressing himself more especially to the municipal authorities:—

> There is one thought which pervades my mind in connexion with this and all other asylums. I have been through your homes of the intellectually sick to-day. I have seen these cheerful sitting-rooms, these cheerful bedrooms, these cheerful dining-rooms, laid out as daintily as they could be for the blood royal, and the one prevailing thought in my mind all that time and which will continue to be while this impression is fresh in my memory—Why do all this for the intellectually dead; how much better it would be if we could do it for the intellectually living. (Applause.) You are making sumptuous homes for the insane. Why, how many of the artisan classes would gladly change places with these lunatics. How few of the artisan classes can ever hope to have homes so sumptuous and so comfortable as those that you have made here.

What wonder if the *Scotsman* felt itself constrained to say that the oratory of the occasion had a "topsy-turvy air" and that the "speeches of Lord Rosebery were more distinguished by their flashes of wit and their gracefully turned phraseology than by sequence or consistency of ideas." It is quite intelligible and not unreasonable that Lord Rosebery, or indeed any ratepayer, should in general terms disapprove of, or criticise unfavourably, the expenditure of large sums of money upon the insane, and if he had thus limited his animadversions no objection could be taken to his offering his opinion for what it was worth, but when he went on to give reasons and to refer to the annual expenditure as a "vast barren fact" which must be faced, to the insane as the representatives of sheer waste and sheer decay, and to asylums as sepulchres of living humanity and tombs of the intellectually dead, he went beyond the pale of innocent and pardonable flights of oratory and conjured up a group of ideas which rendered his statement of the case both unjust and untrue. When, in addition to this, the idea of "cheerfulness" of surroundings for asylum inmates is to be discounted as costly and out of keeping, and when the reasonable and proper requirements of those who are detained under care as being mentally disordered and unsound, whether temporarily or permanently, are to be in any sense subordinated to pecuniary considerations such as those affecting the civilisation of the negro, we must enter our emphatic protest against notions so retrograde and so grotesque.

Did Lord Rosebery ever seriously think out the position that he here takes up; or can it be that when his mind, abounding with normal sympathies, led him to theorise about the insane in the abstract and in large bodies detached from their domestic surroundings, his views took on a morbid and unnatural colouring to which he felt it to be his duty to give expression? Who are these inmates of asylums? They are for the most part the relatives, friends, and neighbours of those artisans and workmen for whose improved accommodation and domestic comfort Lord Rosebery appeals as a set off against the "cheerful" kind of provision made for the insane in asylums. It must be borne in mind that the condition of the ordinary average home is often much tranquillised and improved by the removal of an insane member of the family to an asylum and that—if the subjects are to be mentioned side by side—any betterment, by municipal or other authorities, of such a home which would directly or indirectly involve a reduction in the reasonable comforts of the asylum inmate, is an idea which we believe would be repugnant to the feelings of the class of "worthy workmen" to whom Lord Rosebery makes reference.

Lord Rosebery assumed a grave responsibility when he described the inmates of asylums as being intellectually dead and as representing sheer waste and sheer decay, because nothing could be further from the truth. In this relation we cannot do better than refer our readers to an admirable letter from Dr. T. S. Clouston in the *Scotsman* of Oct. 5th. After referring to the dissatisfaction and even pain felt by many of his audience in regard to the notes which his lordship struck in his speech he goes on to say that—

> It is a well-recognised fact in medicine that the general environment of the sick man strongly tends, along with the nursing and medical treatment, towards his recovery. This is especially the case in regard to mental disease. His Lordship, no doubt unintentionally, missed the strongest point in favour of Bangour and such advanced institutions—viz., that it was intended not merely to care for those who are incurable but, above all things, to give the best chance of cure to those who are curable. As a matter of fact, about 40 per cent. of the patients sent to mental hospitals do recover and are restored to their work in life. I believe that if treatment were earlier applied the number who recover would be still greater.

In addition to the curable cases a large percentage of inmates who are unfit for discharge are quite capable of taking an interest in life and of helping in the work of the asylum fields, workshops, and wards.

Dr. Clouston concludes with the following remarks:—

> I wish Lord Rosebery, from his position as a statesman to whom everybody listens, had struck this note of hope and effort instead of the pessimistic note that he took. He would thus have given encouragement to every worker in mental disease and would have enlightened the public mind. In many a home and in many a heart he would thus have lighted a ray of hope instead of producing a feeling of despair.

Dr. George M. Robertson, the medical superintendent of the Stirling District Asylum, writing in the same issue of the *Scotsman*, bears testimony to the great advantages of the more thorough and more humane system of treating the insane in the present day. "All the necessities of modern asylums," he says, "cost money. The District Lunacy Boards of the country are all agreed upon this point, that it is better to incur the expenditure than to revert to the old and cheaper system."

Bailie Clark, chairman of the Edinburgh District Board, spoke up on behalf of that board and shirked none of their responsibilities in the face of what Lord Rosebery had said.

> Their duty [he said] was to provide a home for the insane poor, and he thought in Bangour that they had as unique an example of such an asylum as could be found in Great Britain, or even in Europe, alike in plan, equipment, and efficiency. That it had been built on what was called the "segregate" system was due to the recommendations of the late Sir John Sibbald to the Board of Lunacy, and he thought, considering its size and equipment, that they had provided the asylum at a most moderate cost. He believed that it would compare favourably in that respect with any other institution in the country.

of this injustice to his medical brethren who are not fortunate enough to be reaping the plums from this enormous "charity," which is so well supported by handsome subscriptions from firms in the neighbourhood and the King's Hospital Fund. If so, I shall, for one, consider him anything but a fit representative on the General Medical Council. Trusting you will find space for this,

I remain, Sirs, yours faithfully,
H. NUNAN COLLIER.

Lavender-gardens, Clapham Common, S.W.,
Oct. 23rd, 1906.

To the Editors of THE LANCET.

SIRS,—I do not quite follow Mr. Harford's letter. The Battersea Provident Dispensary is one of the oldest in England, is conducted on absolutely correct lines, and has before now been commended in your journal. There is a strict wage limit. The medical staff form a majority of the committee and all money received, after paying expenses, is divided among them. The patients are at liberty to select their own medical man and, if popular, he naturally would have the largest number. I admit freely that all medical men of repute who have been practising in the neighbourhood for at least a year ought to be eligible for appointment, the time-limit being intended to keep off medical practice jobbers who might try to make it an asset when selling, but my conscience is perfectly clear, for some time ago, when Dr. J. M. Dunbar was president of the South-West London Medical Society, I caused a meeting to be summoned at which I strongly advocated its being thrown open on the above lines and I have consistently followed that course ever since.

Yours faithfully,
LEONARD STRONG MACMANUS.

Spencer-park, Wandsworth Common, S.W., Oct. 23rd, 1906.

VACCINATION AND ANTIVACCINATIONISTS.

WE have received the following letter with a request for publication :—

To the Editors of THE LANCET.

SIRS,—The communications of your Manchester correspondent are always interesting reading, but at times, as in your issue of Sept. 29th, I think it is marred by referring to those who differ from him in opinion as fools, even though he adopts a circumlocutory method of saying so. Much can be said in defence of the anti-compulsory vaccinator. The history of vaccination records a considerable change of opinion from the time of Edward Jenner's statement that thereby absolute immunity from small-pox was secured to to-day, when members of the profession would hesitate, if not decline, to give a financial indemnity in case of an attack of small-pox within three or six months after "successful" vaccination: there is also the fact that the majority of cases of small-pox are vaccinated and revaccinated persons; this makes a dogmatic statement on this subject suggestive that the assertor has but a slight knowledge of the historical and statistical aspects of this question. Therefore I think that on this subject an opponent can reasonably expect a more courteous reference than that used by your Manchester correspondent, and especially so from a member of a profession that is credited with possessing self-control and courtesy in more than ordinary degree.—I am, Sirs, yours faithfully,

Whalley Range, Manchester, Oct. 1st, 1906. J. E. STOREY.

We submitted Mr. Storey's letter to our Manchester correspondent who replies as follows :—

To the Editors of THE LANCET.

SIRS,—I regret that the susceptibilities of Mr. Storey, and perhaps those of others sharing his views, were wounded by some remarks of mine in your issue of Sept. 29th, and hasten to acknowledge the courteous tone of his letter. Perhaps the language habitually used by many of the antivaccinationists had obscured the fact that in addition to being antivaccinationists they might also suffer from the delicacy of the hyper-sensitive. "Absolute immunity" was not claimed by me as the result of vaccination, which may be efficient or non-efficient according to conditions. Its apparent failures are far too numerous, but experience leads me to the belief that in most cases they are due to the disregard of the conditions necessary to success—as a matter of fact, to vaccination having been scamped. Mothers have objected to their babies being "punished" and medical men have naturally been reluctant to offend or to distress their patients. Moreover, the long immunity from serious general outbreaks of small-pox—so long that many of the present-day practitioners have never, or hardly ever, seen a case—has rendered some of them almost sceptical as to the need for such strong measures against a foe so long invisible. It might be worth while for Mr. Storey to examine the facts bearing on this matter provided by the German Army. As to compulsion, it is late in the day to object; notwithstanding what we consider our liberty we are surrounded by it, it is the air we breathe from the cradle to the grave, and there is no getting away from it. The antivaccination cult is one of sentiment, not of science, and its devotees appear to be forgetful or selfishly regardless of the danger to others involved in its pursuit.

I am, Sirs, yours faithfully,
Oct. 4th, 1906. YOUR MANCHESTER CORRESPONDENT.

We, too, are sorry that Mr. Storey feels that the comments of our Manchester correspondent were, in effect, a reflection upon himself. But we think that even Mr. Storey would agree, were he often present when certificates of conscientious exemption are being applied for, that "the ignorance and in many cases the sheer and absolute fanaticism displayed are somewhat depressing" to those who had hoped that the education of the poorer classes would by this time have led them to appreciate the teachings of science and the advances of protective inoculation generally. We do not think that our correspondent can be reasonably accused of having uttered any "dogmatic statement" in his observations of Sept. 29th and we are quite satisfied that he would agree with Mr. Storey that the position as regards the duration of protection has been very materially modified since Jenner's day. Indeed, we expect that one of the signs of the ignorance which our correspondent deplores is the inability of the least educated classes to accept the position and to get themselves revaccinated.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Oct. 25th, 1828.

BIRMINGHAM SCHOOL OF SURGERY AND MEDICINE.[1]

DR. PEARSON'S INTRODUCTORY ADDRESS.

To the Editor of THE LANCET.

SIR,—I beg leave to hand to you (with the consent of the lecturer) the preliminary address delivered at the opening of the School of Medicine and Surgery in Birmingham this day, by Dr. R. Pearson. I am, Sir,

Your obedient Servant,
W. S. COX, Honorary Secretary.

24, Temple Row, Oct. 20, 1828.

Gentlemen,—Before I proceed to deliver the discourse which I have prepared for the present occasion, it will be expected that I should offer a few remarks relative to the origin and formation of this Institution. The most superficial observer must have perceived how much superior, in every respect, the present state of society is, to the state in discover that it related to the alleged sale of a phonograph costing 4 guineas. He cautiously inquired whether this was an investment with a view to earning money with what he justly described as an expensive toy, and on being answered in the negative he refused to go further into the matter, saying that the man who could afford such a luxury could afford half a guinea for a solicitor. Solicitors will no doubt be grateful to the magistrate and medical men will wish that the purchaser of the 4 guinea phonograph might find it as difficult to procure medical assistance gratis as he did to obtain an opinion upon his legal position.

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[1] A letter from Mr. William Sands Cox, F.R.S.L., senior surgeon of the Queen's Hospital, dean of the faculty, appeared in THE LANCET of July 29th, 1843, stating that "Her Majesty has been graciously pleased to grant a royal charter of incorporation to the School of Medicine and Surgery at Birmingham, with the privileges, immunities, rank, and title of the 'Queen's College, Birmingham.'" In THE LANCET of Oct. 8th, 1892, it was stated "October 1st was a memorable day in the history of Queen's College. The old associations of the past, the relations of the former buildings and the traditions of the medical school flourishing therein for many years have been uprooted and conveyed to 'fresh scenes and pastures new' at Mason College." In the same number of THE LANCET is published the inaugural address by Sir George Murray Humphry, M.D., F.R.C.S., F.R.S., celebrating the union of the two institutions. The Mason College (opened in 1880), it will be remembered was incorporated in the University of Birmingham early in 1900.

Two Important Cases in the Criminal Courts.

Two trials are likely to take place in the near future involving points of considerable interest to readers of THE LANCET. In the one the editor of a newspaper has been committed to take his trial at the Central Criminal Court in respect of a charge of indecent libel founded upon the advertisements appearing in his paper, the allegation being not that these were in themselves of an indecent character but that they related to matter of an indecent nature and did so in such terms as to render the editor responsible. In the other case referred to, a coroner's jury has found a verdict amounting to one of manslaughter against a parent whose child was stated to have died without medical aid, owing to the parent professing what is known as "Christian Science." This case also should in due course be tried at the Old Bailey.

ELECTION OF DIRECT REPRESENTATIVES UPON THE GENERAL MEDICAL COUNCIL.

WE have received the following communications with a request for their publication. The "return" given below is that foreshadowed in the circular addressed to the Chairmen of Divisions of the British Medical Association in England and Wales, which was published in THE LANCET of Sept. 8th, p. 670.

GENERAL MEDICAL COUNCIL ELECTION.

To the Editors of THE LANCET.

1. Dr. L. S. MacManus.
2. Dr. Langley Browne.
3. Dr. H. A. Latimer.

In issuing the above return the scrutineers desire to point out that the candidature of Dr. Morrison was not before the electorate in full.

HUGH R. KER, HUGH WOODS, A. G. BATEMAN,
Scrutineers.

To the Registered Medical Practitioners of England and Wales.

LADIES AND GENTLEMEN,—In placing my services at the disposal of the profession in the ensuing election for Direct Representatives on the General Medical Council, I may be allowed to say that, in order to show that my efforts in the past have not been confined to a narrow groove, I have been for many years a member of the British Medical Association and since the Cheltenham meeting a member of its Central Ethical Committee and its Representative on the Contract Practice Subcommittee in 1905–06, that I have attended all the Representative meetings of the Association on behalf of the North Manchester Division; that I am a member of the Council of the Lancashire and Cheshire Branch; a vice-president and ex-president of the Incorporated Medical Practitioners' Association; and have been a member of the Council of the Medical Guild practically since its foundation some 14 years ago and took an active part in its initiation. All this has given me considerable insight and experience as to the difficulties and trials, as well as shortcomings of everyday practice, which might prove useful in the General Council of Education and Registration in London.

I have recently expressed my views in *THE LANCET* and other medical journals as to the necessity of lectures being given to senior students on ethics to supply the deficiency caused by abolishing the apprenticeship system and of raising the standard of preliminary education both in arts and science before registration, which I need not repeat now. I am also in favour of more stringent action on the part of the Council in any proved cases of touting for vaccination on the part of Poor-law medical officers or their agents, even in those employed by the guardians, and I would go so far as to consider whether proved cases of gross underselling should not be considered "infamous conduct in a professional respect," not only as an injustice to their fellow practitioners, but as lowering the dignity of the profession in the eyes of the public.

The craze for registration now that midwives have secured it is certain to be attempted not only for nurses but spectacle makers, herbalists, &c., and will require careful watching during the next five years, and the General Council will require keeping on the alert, not only for the protection of the public, but if it were possible that of the profession as well, inasmuch as the President has stated that the Council's resources are not yet exhausted. Abolishing unqualified assistants not only benefited the public but the profession. It has always been my endeavour, in season and out of season, to secure as far as possible the union and the interests of the profession and especially by promoting new as well as old combinations of various kinds.

My personal experience of provident dispensaries and another large provident association, when on the staff of which for a few years I fought for the honour and dignity of the profession in the face of strong opponents, and for many years since leaving them, for a wage limit, is well known in my immediate neighbourhood. All this practical experience in addition to that gained as a general practitioner for upwards of a quarter of a century, would surely be of use in a council composed mostly of professors and consultants who know nothing of these matters personally, and would be of assistance in cross examination of delinquents when brought before it.

If it is possible in a new Medical Act to protect the public from the barefaced assumption of medical titles, especially by companies, and from other means of deceiving it, I need not say that it will have my hearty support. The experience gained during the three years I have sat on the Central Ethical Committee of the British Medical Association, not one meeting of which have I been absent from, ought to be of some service to me if elected to the General Medical Council. The reckless distribution of medical services without any regard to wage limit to the injury of respectable qualified practitioners should surely be adjudged "infamous conduct in a professional respect" as in any other.

Believe me, Ladies and Gentlemen, yours faithfully,
G. H. BROADBENT, M.R.C.S. Eng., L.R.C.P. Irel.,
and L.M.

8, Ardwick-green, Manchester, October, 1906.

To the Editors of THE LANCET.

SIRS,—It was with considerable pleasure that I read Mr. M. S. Harford's letter in your issue of Oct. 20th *re* Dr. MacManus's candidature at the forthcoming election as a Direct Representative on the General Medical Council. Mr. Harford draws attention to the injustice of the Battersea Provident Dispensary towards medical men practising in the district, but I think his remarks are mild. He draws attention to the fact that there are members who pay £35 per annum rent exclusive of taxes, and in this I am able to corroborate what he says. I should like to add further that this so-called charity receives some £125 or more per annum from the King's Hospital Fund. Do the people who subscribe to this Fund or those who are answerable for its proper distribution know that their money helps pretty considerably many members of the staff of this dispensary to drive in their carriages and motor-cars? No; I think not. I should like also to ask if the medical men belonging to this huge "charity" are aware of the touting that goes on to get members. I will give an illustration as to how it is done.

A collector goes to a house, in which two or three families may live, to collect a subscription from Mrs. A. Mrs. B, who lives upstairs, is standing at the door at the time the collector calls. When he has received Mrs. A's subscription he turns to Mrs. B and asks her if she is a member. When she says "No," the collector in a suave way points out the benefit of belonging to the dispensary, and she, yielding to his persuasive manner, becomes a member, and I or one of my brother medicals, who is not a member of the dispensary staff, lose another patient. I speak from personal experience, although I have only been in the neighbourhood four months. I should like to ask Dr. MacManus if he is in favour

Bootle, St. Helens, Barrow-in-Furness, Huddersfield, Halifax, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 17·2 and 17·8 in the two preceding weeks, declined to 15·8 in the week ending Oct. 20th, but exceeded by 1·2 the mean rate during the same week in the 76 English towns. The rates in the eight Scotch towns last week ranged from 11·4 and 12·9 in Leith and Edinburgh to 17·1 in Glasgow and 22·1 in Greenock. The 540 deaths in the eight towns showed a decline of 69 from the numbers in the previous week, and included 78 which were referred to the principal epidemic diseases, against 77 and 96 in the two preceding weeks. These 78 deaths were equal to an annual rate of 2·3 per 1000, which was 0·4 above the rate from the same diseases in the 76 English towns. Of these 78 deaths, 47 resulted from diarrhœa, ten from whooping-cough, eight from diphtheria, five from measles, four from "fever," four from scarlet fever, and not one from small-pox. The deaths referred to diarrhœa, which had been 49 and 56 in the two previous weeks, declined again last week to 47, and included 23 in Glasgow, ten in Edinburgh, five in Dundee, and four in Greenock. Of the ten fatal cases of whooping-cough, eight occurred in Glasgow and two in Aberdeen. Diphtheria caused four deaths in Dundee and two in Edinburgh; all the five fatal cases of measles occurred in Aberdeen and two of scarlet fever both in Glasgow and Edinburgh. The four deaths referred to "fever" showed a marked decline from recent weekly numbers, and included three in Glasgow, one of which was certified as cerebro-spinal meningitis. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 66, 72, and 80 in the three preceding weeks, further rose last week to 97, but were eight below the number returned in the corresponding week of last year. The causes of 22, or 4·1 per cent., of the deaths registered during the week were not certified; the mean proportion of uncertified deaths in the 76 English towns during the same week was 1·1 per cent.

HEALTH OF DUBLIN.

The annual death-rate in Dublin, which had been equal to 26·0 and 23·7 in the two preceding weeks, further declined to 21·7 in the week ending Oct. 20th. During the first three weeks of the current quarter the death-rate in the city averaged 23·8 per 1000, the mean rate during the same period being only 14·7 in London and 15·1 in Edinburgh. The 158 deaths of Dublin residents during the week under notice showed a further decline of 14 from recent weekly numbers, and included 21 which were referred to the principal epidemic diseases, against numbers declining from 52 to 20 in the six preceding weeks; these 21 deaths were equal to an annual rate of 2·9 per 1000, the death-rate during the week from the same diseases being only 1·4 in London and 2·1 in Edinburgh. These 21 deaths from epidemic diseases in Dublin included 11 from diarrhœa, four from "fever," two each from scarlet fever, diphtheria, and whooping-cough, and not one either from small-pox or measles. The four deaths from "fever" corresponded with the number in the previous week. The deaths of infants showed an increase, while those of elderly persons had declined. Eight inquest cases and only two deaths from violence were registered; and 50, or 31·6 per cent., of the deaths occurred in public institutions. The causes of five, or 3·2 per cent., of the deaths registered during the week were not certified; the proportion of uncertified deaths last week was only 0·6 in London and 3·6 in Edinburgh.

THE SERVICES.

Royal Navy Medical Service.

The following appointments are notified:—Inspector-General G. J. Irvine to Chatham Hospital. Fleet Surgeons: E. Corcoran to the *Africa*, on commissioning, and G. A. Waters to the *Ramillies*, on recommissioning. Staff Surgeons: R. St. G. S. Bond to the *Hermione*; R. A. Ross to the *Highflyer*, on completing; S. H. Facey to Portland Hospital; W. B. Macleod to the *Diana*; and M. P. Jones to the *Wildfire*. Surgeons: D. G. Addison-Scott to the *Highflyer*, on completing; H. Cooper to the *Diana*, on recommissioning; W. Bastian to the Royal Marine Division, Plymouth; G. O. M. Dickenson to the *Africa*; A. R. Thomas, E. O. B. Carbery and G. M. Eastment to the *President*, for three months' course at West London Hospital; P. D. McJ. Campbell to the *Sealark*, on recommissioning; and O. H. Dawe to the *Vernon*. Civil Practitioner M. Clover to be Surgeon and Agent at Portloe and Portscatho.

Royal Army Medical Corps.

The Commander-in-Chief in India has nominated the tour-expired officers of the Royal Army Medical Corps detailed in the following list to proceed to England in the transports named. In each case the officer first named is in medical charge of the transport: The *Assaye* sailed from Bombay on Oct. 5th, Lieutenant-Colonel C. E. Nichol, D.S.O., Captain J. H. Robinson, and Captain R. T. Brown. The *Dongola* sailed from Bombay on Oct. 19th, Lieutenant-Colonel G. W. Brazier Creagh, C.M.G., Captain R. N. Hunt, and Captain R. V. Cowey. The *Plassy*, hospital ship, will sail from Bombay on Nov. 2nd, Lieutenant-Colonel J. R. Yourdi, Captain J. Dorgan, and Captain A. H. McN. Mitchell. The *Rewa* will sail from Karachi on Nov. 17th, Major G. J. Buchanan, Captain B. S. Bartlett, and Captain T. H. Stevenson. The *Assaye* will sail from Bombay on Dec. 7th, Major H. P. Johnson, Captain C. R. Evans, and Captain A. W. Gibson. The *Dongola* will sail from Karachi on Dec. 21st, Lieutenant-Colonel J. B. W. Buchanan, Captain W. J. Waters, and Captain F. A. H. Clarke The *Plassy* will sail from Bombay on Jan. 4th, 1907, Lieutenant-Colonel H. L. Battersby, Captain H. E. M. Douglas, V.C., D.S.O., and Captain T. J. Potter. The *Rewa* will sail on Jan. 17th from Bombay, a field officer will be detailed in charge later, Captain A. R. O'Flaherty and Captain A. B. Geenwood proceed home on this vessel. The *Assaye* will sail from Bombay on Feb. 8th, Major Withers, Captain J. P. J. Murphy, and Captain Hyde. The *Dongola* will sail from Karachi on Feb. 20th, Lieutenant-Colonel R. G. Hanley, Captain F. S. Penny, and Captain W. Sparkes.

Captain John T. Clapham, from temporary half-pay, is placed on retired pay (dated Oct. 21st, 1906).

Royal Army Medical Corps (Militia).

Supernumerary Captain H. Fox is absorbed into the establishment (dated Oct. 5th, 1906).

Imperial Yeomanry.

Surrey (the Princess of Wales's): Surgeon-Lieutenant R. C. Gayer to be Surgeon-Captain (dated Sept. 17th, 1906).

Honourable Artillery Company of London.

Surgeon-Lieutenant Colonel W. O. James is granted the honorary rank of Surgeon-Colonel (dated Oct. 8th, 1906).

Volunteer Corps.

Rifle: 3rd (Cambridgeshire) Volunteer Battalion the Suffolk Regiment: Surgeon-Captain F. A. Wagstaff resigns his commission (dated Oct. 6th, 1906). 2nd Volunteer Battalion the Lancashire Fusiliers: Surgeon-Lieutenant-Colonel C. W. Thorp is granted the honorary rank of Surgeon-Colonel (dated Sept. 20th, 1906); Surgeon-Major W. Pooley is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated Sept. 22nd, 1906). 2nd Volunteer Battalion the York and Lancaster Regiment: Surgeon Lieutenant A. Robinson to be Surgeon-Captain (dated Oct. 24th, 1906).

Deaths in the Services.

Surgeon-Major Walter Leach, A.M.D., at his residence, Martock, Somerset, on Oct. 13th, in his seventy-ninth year. He joined the Army Medical Department in 1854 and retired when surgeon-major in 1875. He was in medical charge of the Left Wing of the 71st Highlanders during the Central India Campaign, and was present at the battles of Beora, Mongroulie, and Sindwazu. He was also at the affair of Karrai (medal).

Wigan Medical Society.—The annual meeting of this society was held on Oct. 6th. The following office-bearers were elected for the ensuing session. President: Dr. Ferdinand Rees. Committee: the President, the ex-President, Mr. T. M. Angior, Mr. C. M. Brady, Dr. R. P. White, Dr. George Wolstenholme, Dr. M. Benson, Dr. J. M. Boyd, and Mr. C. F. France. Honorary treasurer: Mr. E. H. Monks. Secretary: Mr. William Berry.

which it was twenty or thirty years ago. In what does this superiority consist? Is it not in the higher degree of mental improvement throughout every walk of life? But how has this pleasing change been effected? How have the various ranks in society emerged from comparative ignorance and uncivilization, into the present degree of culture and refinement? I answer, by the increased attention given to education, and by the establishment of various institutions calculated to diffuse knowledge and science, and to promote a taste for the arts. Look at what has been done in the metropolis in this way. What a number of literary and scientific institutions have sprung up there within a very few years, to which may now be added the two universities. From the metropolis let us turn our eyes to our large provincial towns—to Liverpool, Manchester, and Bristol, and we shall see that this spirit of the times, this ardour for mental improvement, has spread itself there also. We shall see that there also education, in all its branches, has been promoted—that there also the fine arts and the useful arts have been encouraged, and that in those towns, as well as in the capital of the empire, temples dedicated to science have been erected, and their portals thrown open to all who desire to enter. It would indeed have been a reproach if Birmingham had viewed with indifference all that has been going on in this way in rival towns; but Birmingham has, all along, been actuated by the very same spirit, omitting its excellent charitable institutions relating to education, I will instance, as suited to the present purpose, and as forming an era in the history of this town, its public libraries, its Philosophical Institution, its Mechanics' Institution, and its two institutions for the encouragement of the fine arts, in the support of which the liberality of many of the neighbouring noblemen and gentlemen has been so conspicuously displayed. But amidst all these improvements, there was yet wanting a school of medicine and surgery. This has, at length, been established after the example of those at Manchester, Liverpool, and Bristol, where the utility of such schools to young men brought up to the profession, has been amply proved during the space of several years. But it may be satisfactory to state the information on this subject, communicated by Mr. Watson, secretary of the Apothecaries' Company to the Committee on Anatomy, appointed by the House of Commons during the last session of Parliament. "On an average," (says Mr. Watson,) "during the last seven years, about 400 students have been examined annually by the Court of Examiners at Apothecaries' Hall; these have not all been educated in London, many have been in attendance at Edinburgh, some have been wholly educated at Manchester—and, of late, several English students have received their instructions from teachers in Dublin. *No young men come before the Court better qualified, in every respect, than those who have been entirely educated at Manchester*, where excellent lectures in every branch of medicine are given by competent teachers, and the Manchester infirmary affords, under the physicians belonging to it, most ample opportunities for the acquirement of practical knowledge." A stronger proof than this, of the utility of provincial medical schools, there cannot be. Now Birmingham being little, if at all inferior to the above-mentioned towns in wealth and population, it is obvious that the aggregate amount of young men brought up to the medical profession in this place and neighbourhood, must be nearly as great as in those places. The demand, therefore, for a school of medicine and surgery must be the same. Under this conviction, and in accordance with the spirit of the times, has been formed the present Institution, which has been honoured with the patronage of the following noblemen and gentlemen:—Marquis of Lansdowne, Earl of Plymouth, Earl Fitzwilliam, Earl Spencer, Earl of Bradford, Earl Howe, Earl of Mountnorris, Lord Viscount Hood, The Lord Bishop of the diocese, The Hon. Mr. Lyttleton, Sir G. Shepwith, Bart., Sir Robert Peel, Bart., Sir Eardley Wilmot, Bart., D. Stratford Dugdale, Esq., M.P., Frances Lawley, Esq., M.P.

We are proud, as indeed we ought to be, of the names of these distinguished characters; men not more respected for their rank and titles, than for their highly-cultivated minds, their benevolent principles, and their uniform attention to public good. By their courtesy in the present instance, they have evinced the estimation in which they hold the medical profession, and their desire to promote its interests; and the sanction which they have been pleased to confer on this school, cannot but give additional stimulus to our exertions. Whilst speaking of our patrons, I must not omit to mention how much our institution has been befriended by the three senior physicians of this town, I mean Dr. Edward Johnstone, Dr. John Johnstone, and Dr. Male. With their accustomed liberality, these gentlemen have thrown open their libraries to us, and have allowed us the use of many valuable plates relative to the departments of anatomy and botany; and Dr. John Johnstone has permitted the lecturer on the practice of physic, in addition to his own, to avail himself of his privileges with respect to the admission of pupils at the General Hospital, an arrangement which cannot but be advantageous to the school.[2]

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8444 births and 4419 deaths were registered during the week ending Oct. 20th. The annual rate of mortality in these towns, which had declined in the six preceding weeks from 22·3 to 15·5 per 1000, further fell last week to 14·6 and was lower than in any week since the middle of August. During the first three weeks of the current quarter the death-rate in these towns averaged 15·7 per 1000; the rate during the same period in London did not exceed 14·5. The lowest death-rates in the 76 towns during the week under notice were 6·5 in King's Norton, 6·6 in Hornsey, 7·1 in Leyton, and 7·3 in Wallasey; the rates in the other towns ranged upwards to 21·7 in St. Helens, 21·8 in Stockton, 24·0 in Middlesbrough, and 24·8 in Warrington. The 4419 deaths in the 76 towns showed a further decline of 276 from the decreasing numbers in recent weeks, and included 591 which were referred to the principal epidemic diseases, against numbers declining from 2570 to 807 in the six preceding weeks; of these, so many as 349 resulted from diarrhœa, while 60 were referred to measles, 58 to diphtheria, 45 to "fever" (principally enteric), 42 to scarlet fever, 37 to whooping-cough, and not one to small-pox. The deaths from these epidemic diseases were equal to a mean annual rate of 1·9 per 1000 in the 76 towns, and to 1·4 in London. The annual death-rate from these diseases was 0·0 in Southampton and 0·4 in Derby and in Willesden, while it ranged upwards in the other towns to 4·7 in Middlesbrough and in Bootle, 5·1 in Burnley, and 7·0 in Blackburn. The deaths referred to diarrhœa (mainly of infants under one year of age), which had declined in the six preceding weeks from 2342 to 550, further fell last week to 349; the annual death-rate from this disease during the week under notice was still so high as 2·8 in Merthyr Tydfil, 3·1 in Middlesbrough, 4·1 in Burnley, and 5·8 in Blackburn. The fatal cases of measles showed an increase upon recent weekly numbers, and caused the highest death-rates in Stockport, Oldham, Norwich, and Warrington. The deaths referred to "fever" were fewer by 20 than in the previous week, but showed a marked excess in Bolton. The highest death-rates from diphtheria occurred in Wallsall and West Hartlepool; from scarlet fever in Walthamstow; and from whooping-cough in Birkenhead. No case of small-pox was under treatment in the Metropolitan Asylums hospitals during the week, no case of this disease having been admitted thereto since the end of June. The number of scarlet fever cases under treatment in the Metropolitan Asylums hospitals and in the London Fever Hospital, which had increased in the seven preceding weeks from 3042 to 3803, further rose to 3923 during the week under notice; 548 new cases were admitted to these hospitals during the week, against 621 and 566 in the two previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 188 and 187 in the two previous weeks, declined last week to 146, and were so many as 95 below the corrected average in the corresponding week of the four preceding years, 1902–05. The causes of 47, or 1·1 per cent., of the deaths registered in the 76 towns during the week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Leeds, Bradford, Newcastle-on-Tyne, Hull, and in 50 other smaller towns; the proportion of uncertified deaths showed, however, a considerable excess in Liverpool,

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[2] The succeeding paragraphs relating to the resources and apparatus of the institution have not been t

Correspondence.

"Audi alteram partem."

PURIN-FREE DIETS.

To the Editors of THE LANCET.

SIRS,—When doctors disagree, who shall decide? Unfortunately, in the matter of treatment there is sad disagreement among them. So much so, indeed, that one may well question whether therapeutics has yet attained to the dignity of a science. A science implies the codification of a number of propositions having such a show of truth as to be accepted by all its serious students. Applying this test, are we justified in including therapeutics among the sciences? I fear not; for there is scarcely a disease regarding the treatment of which physicians show anything like agreement. Therapeutics can never, it is true, become an exact science, since it is always the individual patient rather than a stereotyped disease that has to be treated. Nevertheless, it is much to be regretted that physicians are not one and all agreed on elementary principles, but that each gangs his ain therapeutic gait, to the bewilderment and sometimes, I fear, amusement of the general public.

Nothing better shows the chaotic state of present-day therapeutics than the hopeless disagreement that prevails regarding the dietetic treatment of disease. For many years past we have been taught by a band of enthusiasts that uric acid is a deadly poison and responsible for most (if not all) the ills to which flesh is heir; and so sedulously and successfully has this dogma been disseminated that the public has been wrought up into a veritable uric acid mania—a circumstance of which the enterprising chemist has not been slow to take advantage.

But what is the actual truth regarding the toxic action of uric acid? This, that—as Bouchard has shown—it is no more poisonous than distilled water. No doubt benefit can often be got from a so-called purin-free diet; but, as Dr. Francis W. E. Hare has shown in his remarkable work "The Food Factor in Disease," the disorders which can be benefited in this way can be equally, if not more, successfully treated on a diet containing an abundance of purin bodies, if only the carbonaceous ingredients be curtailed. Any one can prove the truth of this for himself.

A knowledge of man's past dietetic history should alone suffice to give the *coup de grâce* to the uric acid fallacy and the belief that animal food is necessarily injurious to man. In my papers on "The Evolution of Man's Diet," published in THE LANCET in 1904, I endeavoured to show that from the anthropoid period of his phylogeny down to the discovery of cookery he became increasingly carnivorous, until he actually came to consume more animal than vegetable food; and that even when he had learnt to prepare his food by cookery and other means, and thus to increase his vegetable supply, he still continued to be largely carnivorous, as is shown by the dietetic customs of the surviving precibiculturists who consume, on an average, about equal parts of animal and vegetable food. It was not until the agricultural period was well advanced, and the supply of vegetable food thus enormously increased, that man came to consume distinctly more vegetable than animal food, and in some cases even to subsist on vegetable food alone. In other words, man—proud man, "the roof and crown of things"—has evolved from the ape on a highly animalised diet. It was on such a diet that during some hundreds of thousands of years he slowly mounted up the rungs of the evolutionary ladder which leads from the beast to the man, that he evolved the faculty of language, the power of self-analysis, of pondering on the past and present, and speculating as to the future; on such a diet that he first dreamed of a life beyond the grave.

If, then, man has passed from such depths to such heights on a richly animalised food, what folly to contend that food of this kind is necessarily poisonous to him. Man is omnivorous and distinguished from all other animals by his extraordinary adaptability to foods of different kinds. It is this adaptability, coupled with his skill in cultivating and preparing his vegetable food, that has enabled him in some parts of the world to become almost entirely a vegetarian; and it is this adaptability and this skill, fortified by a growing moral sense, which will one day perhaps lead him to refrain altogether from eating that which has once throbbed with the pulse of sentient life. This may come; this ought, I think, to come. As at present constituted, however, man is largely carnivorous in nature and it is idle to pretend otherwise.

I am, Sirs, yours faithfully,
Wimpole-street, W., Oct. 21st, 1906. HARRY CAMPBELL.

MEDICAL MEN USING MOTOR-CARS.

To the Editors of THE LANCET.

SIRS,—Will you allow us, on behalf of the committee of medical men who are users of motor-cars, to call attention to a matter of importance? Under the existing Motor-car Act, which has been temporarily prolonged, the owners of motor-cars are called upon to pay (1) for a licence to drive; (2) a registration fee; and (3) a carriage tax of £2 2*s.* for cars under one ton weight, and of £4 4*s.* for cars over a ton weight.

Now there are good reasons for anticipating that in the Act which is being drafted the last of these three will be materially increased, and that cars will be taxed according to either their weight or horse-power. In either case the new taxation will fall heavily upon medical men, who, owing to the exacting nature of their work, the requirements of reliability, the rough roads and steep hills they have to traverse, must use substantially built cars with adequate horse-power. It is not right that motors used by medical men in their daily work should be taxed as though they were the pleasure vehicles of the rich. The medical man has neither time nor money to allow of such luxuries; his motor-car has to be used strictly for professional purposes, and, in consideration of the enormous amount of gratuitous work that he does, ought to be exempt. Surely it is to the advantage of the public to encourage the use by medical men of a means of progression which enables them to render such speedy help in moments of emergency. It is, however, likely that heavy taxes will be thrown upon medical men unless they bestir themselves and try to defend their own interests. We would, therefore, suggest that each medical man should forthwith write to his own Member of Parliament or to any others that he may know for protection and support. Those members of the public who are favourably disposed are asked to write to Members of Parliament and express their sympathy with this movement.

We remain, yours faithfully,
C. B. LOCKWOOD,
Chairman of Committee of Medical Men who are users of Motor Cars;
H. E. BRUCE PORTER,
Honorary Secretary.
6, Grosvenor street, London, W.

MEDICAL BARRISTERS.

To the Editors of THE LANCET.

SIRS,—Twelve months ago you kindly published a list of medical barristers which I had compiled.[1] Since then, owing largely to the publicity afforded by your columns, I have been able to extend and in a few cases to correct the previous provisional list. Before the days of *registered* medical practitioners it is, however, somewhat difficult to know when a man should be called a medical man. Thus the following well-known barristers commenced the practice of medicine but forsook it for the law: Lord St. Leonards (Lincoln's Inn, 1807), was son of a barber-surgeon; Joseph Chitty the elder ("called" by Middle Temple, 1816) was diverted from medicine by Lord Erskine; Charles Wilkins (1835) and Samuel Warren (1837) probably never were more than students; the same may be said of William Campbell Sleigh (Sjt.) (Middle Temple, 1846); Sir Thomas Dickson Archibald (Middle Temple, 1852), is said to have been a medical practitioner in Canada, he was called to the Nova Scotia Bar in 1837.

The names which should be added to the first list are:—1803: William Warren Baldwin (Ontario Bar). 1819: John Rolph (Inner Temple and Ontario Bar in 1821). 1870 (June): Frederick Victor Dickins (C.B.) (Middle Temple). 1883 (January): Robert John Price (Middle Temple). 1895 (May): Sidney Iorwerth Mansel-Howe (Gray's Inn). 1903 (June): George Jones (Gray's Inn); (November) John Spencer Low (Middle Temple). In addition to these, 11

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[1] THE LANCET, Nov. 4th, 1905, p. 1360.

Correspondence.

"Audi alteram partem."

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Nothing better shows the chaotic state of present-day therapeutics than the hopeless disagreement that prevails regarding the dietetic treatment of disease. For many years past we have been taught by a band of enthusiasts that uric acid is a deadly poison and responsible for most (if not all) the ills to which flesh is heir; and so sedulously and successfully has this dogma been disseminated that the public has been wrought up into a veritable uric acid mania—a circumstance of which the enterprising chemist has not been slow to take advantage.

But what is the actual truth regarding the toxic action of uric acid? This, that—as Bouchard has shown—it is no more poisonous than distilled water. No doubt benefit can often be got from a so-called purin-free diet; but, as Dr. Francis W. E. Hare has shown in his remarkable work "The Food Factor in Disease," the disorders which can be benefited in this way can be equally, if not more, successfully treated on a diet containing an abundance of purin bodies, if only the carbonaceous ingredients be curtailed. Any one can prove the truth of this for himself.

A knowledge of man's past dietetic history should alone suffice to give the *coup de grâce* to the uric acid fallacy and the belief that animal food is necessarily injurious to man. In my papers on "The Evolution of Man's Diet," published in THE LANCET in 1904, I endeavoured to show that from the anthropoid period of his phylogeny down to the discovery of cookery he became increasingly carnivorous, until he actually came to consume more animal than vegetable food; and that even when he had learnt to prepare his food by cookery and other means, and thus to increase his vegetable supply, he still continued to be largely carnivorous, as is shown by the dietetic customs of the surviving precibiculturists who consume, on an average, about equal parts of animal and vegetable food. It was not until the agricultural period was well advanced, and the supply of vegetable food thus enormously increased, that man came to consume distinctly more vegetable than animal food, and in some cases even to subsist on vegetable food alone. In other words, man—proud man, "the roof and crown of things"—has evolved from the ape on a highly animalised diet. It was on such a diet that during some hundreds of thousands of years he slowly mounted up the rungs of the evolutionary ladder which leads from the beast to the man, that he evolved the faculty of language, the power of self-analysis, of pondering on the past and present, and speculating as to the future; on such a diet that he first dreamed of a life beyond the grave.

If, then, man has passed from such depths to such heights on a richly animalised food, what folly to contend that food of this kind is necessarily poisonous to him. Man is omnivorous and distinguished from all other animals by his extraordinary adaptability to foods of different kinds. It is this adaptability, coupled with his skill in cultivating and preparing his vegetable food, that has enabled him in some parts of the world to become almost entirely a vegetarian; and it is this adaptability and this skill, fortified by a growing moral sense, which will one day perhaps lead him to refrain altogether from eating that which has once throbbed with the pulse of sentient life. This may come; this ought, I think, to come. As at present constituted, however, man is largely carnivorous in nature and it is idle to pretend otherwise. I am, Sirs, yours faithfully,

Wimpole-street, W., Oct. 21st, 1906. HARRY CAMPBELL.

MEDICAL MEN USING MOTOR-CARS.

To the Editors of THE LANCET.

SIRS,—Will you allow us, on behalf of the committee of medical men who are users of motor-cars, to call attention to a matter of importance? Under the existing Motor-car Act, which has been temporarily prolonged, the owners of motor-cars are called upon to pay (1) for a licence to drive; (2) a registration fee; and (3) a carriage tax of £2 2*s*. for cars under one ton weight, and of £4 4*s*. for cars over a ton weight.

Now there are good reasons for anticipating that in the Act which is being drafted the last of these three will be materially increased, and that cars will be taxed according to either their weight or horse-power. In either case the new taxation will fall heavily upon medical men, who, *owing to the exacting* nature of their work, the requirements of reliability, the rough roads and steep hills they have to traverse, must use substantially built cars with adequate horse-power. It is not right that motors used by medical men in their daily work should be taxed as though they were the pleasure vehicles of the rich. The medical man has neither time nor money to allow of such luxuries; his motor-car has to be used strictly for professional purposes, and, in consideration of the enormous amount of gratuitous work that he does, ought to be exempt. Surely it is to the advantage of the public to encourage the use by medical men of a means of progression which enables them to render such speedy help in moments of emergency. It is, however, likely that heavy taxes will be thrown upon medical men unless they bestir themselves and try to defend their own interests. We would, therefore, suggest that each medical man should forthwith write to his own Member of Parliament or to any others that he may know for protection and support. Those members of the public who are favourably disposed are asked to write to Members of Parliament and express their sympathy with this movement.

We remain, yours faithfully,

C. B. LOCKWOOD,
Chairman of Committee of Medical Men who are users of Motor Cars;
H. E. BRUCE PORTER,
Honorary Secretary.

6, Grosvenor-street, London, W.

MEDICAL BARRISTERS.

To the Editors of THE LANCET.

SIRS,—Twelve months ago you kindly published a list of medical barristers which I had compiled.[1] Since then, owing largely to the publicity afforded by your columns, I have been able to extend and in a few cases to correct the previous provisional list. Before the days of *registered* medical practitioners it is, however, somewhat difficult to know when a man should be called a medical man. Thus the following well-known barristers commenced the practice of medicine but forsook it for the law: Lord St. Leonards (Lincoln's Inn, 1807), was son of a barber-surgeon; Joseph Chitty the elder ("called" by Middle Temple, 1816) was diverted from medicine by Lord Erskine; Charles Wilkins (1835) and Samuel Warren (1837) probably never were more than students; the same may be said of William Campbell Sleigh (Sjt.) (Middle Temple, 1846); Sir Thomas Dickson Archibald (Middle Temple, 1852), is said to have been a medical practitioner in Canada, he was called to the Nova Scotia Bar in 1837.

The names which should be added to the first list are:—1803: William Warren Baldwin (Ontario Bar). 1819: John Rolph (Inner Temple and Ontario Bar in 1821). 1870 (June): Frederick Victor Dickins (C.B.) (Middle Temple). 1883 (January): Robert John Price (Middle Temple). 1895 (May): Sidney Iorwerth Mansel-Howe (Gray's Inn). 1903 (June): George Jones (Gray's Inn); (November) John Spencer Low (Middle Temple). In addition to these, 11 directly responsible to the Secretary of State for the efficiency of his department. Governors, administrators, and such officials should have nothing whatever to do with the medical arrangements except in the very most exceptional circumstances. What we most urgently need is fair pension, progressive pay, due promotion, necessary allowances, and adequate leave on full pay. Private practice should not enter into the arrangement at all.

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[1] THE LANCET, Nov. 4th, 1905, p. 1360.

I am, Sirs, yours faithfully,
MEDICAL OFFICER.

"THEN AND NOW, IN SURGERY."

To the Editors of THE LANCET.

SIRS,—In comparing and contrasting "Then and Now, in Surgery," may I venture to point out with reference to Mr. C. A. Ballance's remarks on the successful transplantation of organs, that none of the moderns have yet equalled the performance of Cosmas and Damian.

It is written: A man had a cancer of the leg; he went to pray in the church of St. Cosmas and St. Damian in Rome. He soon fell asleep. The saints whom he had implored appeared to him, one carrying a box of ointment, the other a scalpel. "How shall we replace the limb when we have cut it off?" said St. Cosmas. "A Moor has just been buried," replied St. Damian, "let us take his leg and put it in the place of this one." No sooner said than done. When the patient awoke he was healed; *only he had one black leg.*

I am, Sirs, yours faithfully,
Oct. 22nd, 1906. J. T.

PRESCRIBING BY OPTICIANS.

To the Editors of THE LANCET.

SIRS,—The letter and annotation on Prescribing by Opticians which appeared in THE LANCET of Oct. 13th deal with a problem bristling with difficulties. To call a sight-testing optician a "spectacle quack"—to record cases of evil treatment by him—to deplore the deception of ignorant people who frequent his parlour, gulled by the specious advertisements of himself as an eyesight specialist and connoisseur in everything appertaining to spectacles—all this every well-informed and experienced medical man must admit as just as it is futile. The time has surely come for concerted action, and to consider the means whereby this action can be in part transmuted into legislative machinery which will proscribe the "optologist" and place his work under a ban.

Some time ago, Sirs, I outlined for your consideration a scheme of such concerted medical action to combat quackery. To deal in particular with optologists and to stop their poaching on our ophthalmic preserves we have to consider three factors—viz., the private man, the medical man, and the optical man. The private man from the medical standpoint can be treated, on the one hand, as an inert mass, devoid of reason, and falling by advertisement as surely as a stone to earth by gravitation. On the other hand, he is a thinking unit who buys in what he deems the best market, and provides himself with suitable spectacles according to the height of his position and the depth of his pocket. The ophthalmic surgeon prescribes spectacles for a guinea, maybe two; the general practitioner who glasses his patients is a *rara avis* who inspires curiosity rather than confidence; eye hospitals are, and not without reason, viewed with suspicion, and present deterrent features, if not actually a notice that "patients are not tested for spectacles." The druggist, the optician, and the "optologist" are therefore left with a pretty clear course to entice the foolish, or necessity driven many, by cunningly worded advertisements devised to "catch if you can."

Contrast the position of the second factor, the medical man who is bound over on the side of silence. The wolf can howl, but the lamb may scarcely bleat for help or move to circumvent the machinations of his enemy. As you say, Sirs, "We must stand absolutely aloof from the devices of competition." ("What is Specialism?" p. 883.) We, in general practice, must not indicate in any manner that we do special work. Those of us who have taken up eye-work as a specialty have to sit down and wait for the discerning public to discover the refractionist in his retreat and to give him a chance of proving that he is an "eyesight specialist" whose skill, at least, outvies that of the proclaiming optologist!

And how many general practitioners do refraction work or could conform to the standard implied by your statement "that no one is justified in ordering glasses until he has corrected a very large number of refractions under skilled supervision"? And what is the fate of the refractionist in general practice? My experience is that his *confrères* ostracise him for daring to do special work which they cannot perform and that they will not send him a single refraction case *because he is a general practitioner*, and therefore a competitor. They prefer to despatch their cases to hospitals or oculists, or they will actually assist the optologist by sending him cases to glass and demean themselves by asking for an eye report on their headachey patients! Such conduct makes me ask whether these medical men are in the habit of sending for a midwife to assist them when confronted with a difficult labour?

Thus can it be demonstrated how feeble is the spirit of union amongst members of the medical profession. We, who in private life applaud unity and deplore personal antipathies, and who, in our medical societies, champion unity and urge loyalty to our profession, yet in the exercise of our profession we suspect one another, are envious of individual success, and are full of petty intrigues. I venture to suggest, Sirs, that as a preliminary to tackling the "ophthalmic optician" difficulty we must purge ourselves from much that is paltry; we must fit ourselves to prescribe spectacles as well as the most skilful optologist; we should be permitted to indicate our preparedness to refract to the general public; and then as brethren take counsel together in our respective towns, to prepare a scheme of graduated fees for the poor but more respectable, as a check to hospital abuse and optician misuse.

With regard to the third factor—the optologist himself—he is not entirely bad. The one in the town in which I practise is a conscientious man skilled in refraction. He refracts ten (perhaps 20) cases to my one, and thus in proportion deprives me of legitimate fees which, I must yet admit, he earns as well as, if not better than, many a medical practitioner who treats diseases of the eye. He brings me occasional patients, for which I am truly thankful, and were it ethical and practicable I would rejoice in a partnership which would link such an optologist and myself in holy communion.

I am, Sirs, yours faithfully,
M.D., B.S. LOND., D.P.H. CAMB.

THE INTERNATIONAL CONFERENCE ON CANCER.

(FROM OUR CORRESPONDENTS.)

(Concluded from p. 1039.)

THE members of the Conference who travelled from Heidelberg to Frankfort met at the Senckenberg Institute in the latter city on the morning of Sept. 26th. This institute, which comprises among its buildings a library and a hospital, was founded by the benevolence of a medical man. The members of the Conference were received by Councillor Kirschner in the name of Minister Studt who was one of its promoters. A telegram of welcome from Ministerial Director Althoff was read by Professor Leyden.

Dr. COHN, representing the Medical Association, expressed great satisfaction that surgeons, pathologists, and bacteriologists had assembled to work together and to interchange their views instead of following the present-day tendency towards not only specialisation but even over-specialisation. He said that he felt complete confidence in the methods adopted and the views held by those who were engaged in the investigation of the subject of cancer.

Professor EHRLICH read his report on the Investigations carried out at the Institute for Experimental Therapy. The foundation of a special department for cancer research at the Frankfort Institute for Experimental Therapy had made Frankfort a centre for the study of cancer, so that the members of the Conference met at Frankfort to see some of Professor Ehrlich's unique specimens. Some 280 cancerous growths, excised chiefly from mice, had been thoroughly investigated. Some 1200 mice were under experimental observation in this institute. Mice which had been experimented upon, microscopic specimens, and demonstrations with the epidiascope (carried out by Dr. Apolant) illustrated

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private practice, &c., are subject to wide variations. As you point out in the above-mentioned article, "salaries differ with no apparent difference in work or responsibility. In some places there is a widows' and orphans' fund; in others, there is not, and when it is deducted, percentages are not uniform. ...... In some places the service is largely recruited from the native-born, who are given the better berths, and in others they do not seem to be taken into consideration. There are no settled rules about pensions, allowances, or extra fees. ...... There are no provisions for promotion which entail that the headship of the medical department in a colony will be obtained by a member of the medical staff of the colony, so that men may be suddenly disappointed in their hopes of securing berths which had seemed well within their grasp. When it is remembered that some appointments are made by the Foreign Office, some by the Colonial Office, and some by colonial governors, ... it will be seen that it is no over-statement to allude to the service as 'in a muddle.'" Take the case of a medical man who obtains one of these appointments in England through the Colonial Office. He will only obtain general knowledge relating to his appointment. Detailed knowledge he will not get. Whether this is due to the Colonial Office not having detailed information, or whether it is due to its unwillingness to supply it, I do not know, but I am inclined to think it is due to the former. But a candidate will invariably find that he will have to pay £30–£40 a year rent for his house; he will have to purchase a horse, and often a buggy; he may have to buy a boat (part of the work often being done by a boat); he will have to furnish his house; he will have to pay income-tax and other taxes. It will therefore be apparent that his initial expenditure will not be a small one.

With regard to private practice, this is a most uncertain quantity. In some cases it may be nil; in others, it may be a useful auxiliary; in a very few cases it may be extraordinarily good, so good, in fact, that the official salary is a mere "drop in the ocean" compared to it. Take my own case, for instance. My salary is £240 a year (minus income-tax). I get £30 a year drug allowance, which is only just sufficient to cover my drug bills. I get 1*s.* for each vaccination performed (about £10 a year). If I give evidence before a magistrate (this is a most seldom occurrence) I get a fee of 10*s.* I am not entitled to any fee for post-mortem examinations or for giving evidence before a coroner, or any other allowances whatever. My private practice works out at £10 a year. I am not entitled to any pension. I might remain here for 20 years (my predecessor was here for 30 years, but in his time there was a pension scheme, and he now has a very small pension to subsist on), and what would I have at the end of it? Absolutely nothing, for I am not able to save anything, and I have nothing to look forward to but penury in my old age.

I am entitled to six months' leave at the end of three years' service on half-pay. My pay would, for this period, amount to £60, and would therefore only just cover my passage money. And the obtaining of leave is no small difficulty, for a locum-tenent has to be found to do one's work for £60 for the six months one is away, and naturally it is only with great difficulty that such a person can be found. Again, to an Englishman the climate is about one of the most trying in the whole world. In many places malaria exists in its worst forms. The life is often a terribly lonely one, for the people around will be almost exclusively members of the black race. There can be no doubt that for any self-respecting Englishman to accept a medical appointment in the West Indies, under present conditions, is nothing short of madness; and if he be married it would be a suicidal policy, as the climate is especially prejudicial to English women and children.

As you point out in your article, "the successful organisation of the West African Medical Service makes it a practical question to ask why the Colonial Medical Service of the empire should not be organised on similar lines." And I quite agree with you that it should be placed on a similar basis to that of the Army and Indian Medical Services, &c. For the Colonial Medical Service is every bit as arduous as either of these services, if not more so. There can be no doubt that private practice is at the root of the evil in the Colonial Medical Service. And although it would be perhaps difficult to abolish it, it certainly should not be encouraged.

As you remark, "the whole service should be a definite department of the Colonial Office." There can be no doubt that the principal medical officer in each colony should be the Conference, to whose labours its success is greatly due, dwelt upon the necessity of special hospitals for cancer.

Short speeches by Professor VON LEYDEN and Professor CZERNY brought the proceedings to an end. The former dealt with the importance of this Conference and the vast amount of work which had been done and Professor Czerny stated that there was some reason to hope that a cure not only could, but would, be found. He appealed to the Governments of various nations to foster the work carried on by researchers and clinicians in the field of cancer, inasmuch as cancer, being an enemy to the human race, should meet with a combined effort to overcome it.

THE MARSEILLES CONGRESS OF HYGIENE.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

ACHIEVEMENT AND RESULTS OF THE GREAT DRAINAGE SCHEME FOR MARSEILLES.—ALCOHOL AND THE DIET OF SAILORS.—THE STRUGGLE AGAINST TUBERCULOSIS.—DOMESTIC SANITATION.

Marseilles, Oct. 15th.

THE National Congress of Hygiene held in connexion with the Marseilles Colonial Exhibition has just concluded its labours. As announced in THE LANCET of March 31st last this congress, though national, would welcome any foreign hygienist who might desire to attend. As a result the foreign contingent formed quite an important part of the congress. The Russian Government alone was officially represented by M. de Timonoff, director of the means of communication of the St. Petersburg district; but the Belgian Government sanctioned the presence, in his individual capacity, of the well-known hygienist, Dr. Volturon, who is inspector of the sanitary services at the Ministry of Agriculture of Belgium. Then several Swiss, Italian, and Belgian towns sent representatives and there were individual members from Brazil, Great Britain, Germany, and Spain. The congress met in the Palace of the Pharo which had been built for the Empress Eugénie, but the Napoleonic dynasty was swept away in 1870 before the structure was quite completed. The first occupants were cholera patients and now it has been converted into the Medical School of Marseilles and the surrounding gardens into a public park. From this vantage ground a beautiful view is obtained of the entrance into the old port and the new docks, the islands, the sea, and the coast-line of the Gulf of Lyons. The various sections met in the different lecture-rooms of the medical school and enjoyed every convenience for the accomplishment of their task. The opening and closing ceremonies, however, took place in the Hall of Festivals of the Colonial Exhibition. It would be impossible to follow in detail all the discussions of every congress of this description held throughout the continent of Europe. On the other hand, what concerns Marseilles is of more than local interest and it is of particular importance to the British public. Marseilles is not only "the door to the East," but it is the particular door through which a large portion of our traffic, especially our passenger traffic, passes on its way to Egypt and the East Indies. Then, again, it interests the British public because it is a natural halting-place for the many invalids and pleasure seekers who endeavour to escape the northern winter by visiting the French or Italian Riviera.

It so happens, as bearing upon the above considerations, that the present congress has served as a sort of apotheosis in honour of Monsieur M. A. Cartier, author of the great scheme for the draining of Marseilles. What this means will not be altogether unfamiliar to the readers of THE LANCET, for it may justly claim to have contributed to the success which the congress has celebrated. More than 30 years ago THE LANCET published scathing denunciations of the insanitary condition of Marseilles. Then during the cholera epidemics of 1884, 1885, 1892, and 1893 this veritable plague-spot was described with minute care and the authorities were urged not to lose a moment in carrying out a general drainage scheme. The death-rate in normal times was 32 per 1000 per annum and with the occasional exceptional prevalence of epidemic disease would exceed 40 per 1000. Filthy sewers drained into the stagnant waters of the old port causing a permanent stench. Some houses had metallic pails which retained the heavy quids to flow into the open street gutter. In other houses there were cesspools and no less than 13,000 houses divided up into numerous tenements had no closets of any description whatsoever. The inhabitants simply used vases and threw the contents from their windows out into the streets! Such was the condition of Marseilles a few years ago and the congress listened to a paper giving the details of how all this has been altered. When dealing with the cholera epidemic in 1893 I described M. Cartier's scheme and gave a map to illustrate the details. It has now been realised but with what infinite trouble and useless life-destroying delay. Financially the scheme liberated householders from the expense of dealing with their own cesspools but imposed an initial tax of 50 francs per metre of street surface or run and an annual sewer rate proportionate to the value of the property. In exchange for this guarantee the Société Marseillaise and the Trans-Atlantic Bank undertook to supply the capital and to carry out the works. The drainage scheme which was thus to be carried out had been rewarded with a silver medal at the Universal Exhibition of 1889. The Prefect of Marseilles opened a public inquiry as to its applicability in January, 1890; the municipality adopted the scheme in the following July and in December it received the approbation of the highest theoretical sanitary authority of France, the Comité Consultatif d'Hygiène Publique de France. It was not till June, 1891, that M. Constans, then Minister of the Interior, introduced a Bill sanctioning the project in the Chamber of Deputies. The Bill was passed in July, 1891, and M. Freycinet, then Prime Minister, accompanied by other members of the Government, laid the foundation-stone of the main sewer on Oct. 8th, 1891.

The condition of the subsoil proving different from what had been anticipated unexpected difficulties arose. These were aggravated by the opposition of many householders and political animosities further complicated matters. Nevertheless, the sewers were all completed by May, 1896. A complete system of masonry and of hardware sewers now drains 1400 hectares of building land. Courts and alleys, as well as the streets, have their sewers, and these are at least ten feet below the surface of the street. Their size is calculated for a population that may grow to 800,000. The difficulty, in fact the principal objection to the scheme as a whole, is the insufficient fall of some minor sewers but notably of the main collector. Therefore artificial means of cleansing and flushing had to be provided. But if the sewers are not in every case self-cleansing, sewers now exist and they are cleansed, and that, after all, is the chief necessity. The masonry sewers are 100,800 metres and the pipe sewers 97,300 metres in length. The main sewer, called *l'émissaire*, is 11,870 metres in length, of which 8420 metres are tunnelled under a mountain so as to secure an outfall into the deep sea on the other side of a promontory that protects the approaches to the port of Marseilles. This main collector cost £280,000. It can pour into the sea 16,000 litres of rain or sewage per second and there are also some storm overflows. Such, in a few words, is the immense task that has been accomplished. The result is just what THE LANCET, basing its opinion on the experience acquired in British towns, foresaw. It is such as has always been promised by sanitary reformers. The prevalence of small-pox does not seem to have been affected by the construction of the sewers. The report presented to the congress states:—

> The high rate of mortality which Dr. Mireur described as prevailing before the carrying out of the drainage scheme has diminished little by little. It is now only 22 per 1000 which is the average of normal years when there has been no small-pox epidemic. The death-rate fell to 21·84 per 1000 in 1904 and to 21·45 in 1905.

When it is borne in mind that the normal death-rate used to be 32 per 1000, this, indeed, may be described as a glorious result. Had the Marseilles Congress of Hygiene met simply and solely to celebrate this one fact it would have imparted to the world a useful object lesson.

Many other questions, however, were also discussed, though perhaps not so fruitfully. But if it is desirable to celebrate successes achieved it is also indispensable to pave the way for future endeavours. Thus much that was said was of a tentative nature, a sort of feeling the way towards achievements in many other directions. For instance, if Marseilles was praised for the realisation of its drainage scheme, it was sharply criticised for not completing its waterworks. An excursion was organised and many members of the congress went to visit the canal and reservoirs for bringing the waters of the Durance to Marseilles. These

Professor Ehrlich's paper. He said that with the transplantation experiments of Hanau, Moreau, and Jensen a new epoch had originated in the study of cancer. These observers had shown that certain tumours in mice and rats—recognised by Ehrlich and Apolant as mammary tumours—could be transplanted from one animal to another. The present position of science permitted of the following classification of malignant tumours: (1) carcinoma arising from glandular epithelium; (2) sarcoma or connective tissue tumours; and (3) chondroma or cartilaginous tumours. He commenced his investigations on cancer from the bacteriological standpoint but he protested against the opinion that he was a stern upholder of the "parasitic theory." Hitherto 300 mouse tumours had been investigated under his direction. Such a large number became necessary because only a small percentage could successfully be transplanted into other animals. From 108 transplantations only nine grew persistently, due to unknown factors. Michaelis had shown that tumours could not be transplanted from Copenhagen mice to Berlin mice, but by the process of natural selection it was possible to increase the virulence in some species by only transplanting the best-growing tumours. This procedure met with such success that the power of growth of the tumour exceeded anything seen in man, malignant tumours in a few weeks exceeding in size the animal itself. As already stated, the tumours were cancers of the mamma and it was extremely interesting to observe that these cancers, after some successive inoculations, assumed a sarcomatous character and finally became sarcomata. Dr. Haaland succeeded in separating these mixed tumours into their components and in producing either sarcoma or cancer by further inoculation. This was done by exposure of the growth to somewhat high temperatures, against which the cancer cells were less resistant and therefore perished. On the other hand, by mixing small particles of sarcoma and cancer and inoculating the mixture into mice mixed growths were produced. As to the influence of temperature on the cells, Professor Ehrlich stated that cells which were exposed to temperatures from – 25° to + 30° C. did not lose their virulence. In one case cancer developed after the inoculation of a growth which had been kept for two years at a temperature of – 10° C. Professor Ehrlich was of opinion that a growth might be kept virulent for ten years and more at similar temperatures. The cells of chondroma were still more resistant, its growth continuing at a temperature of – 100° C. Inoculation of chondroma had been successful in nearly every instance; it, however, grew more slowly than cancer and sarcoma. It contained numerous blood-vessels which did not exist in cancer and sarcoma produced by inoculation but were present in spontaneous growths. Professor Ehrlich then spoke of his experiments on immunisation. Proceeding in accordance with the methods of bacteriological immunisation he inoculated mice with particles of slowly growing and therefore less virulent tumour. He afterwards found that when mice were inoculated with specimens of very malignant cancer (1) with and (2) without a previous injection of less malignant particles the animals of the latter category became cancerous, whilst those of the former remained healthy. Mice immunised in this way against cancer became exempt from sarcoma likewise. Professor Ehrlich then mentioned the interesting fact that cancer might be conveyed from a mouse to a rat. In the rat it grew fairly well at first but after a lapse of eight or ten days it gradually began to disappear and it was not found possible to convey the cancer from that rat to another rat. He was of opinion that for the existence of cancer there must be a specific agent which was present in the organism of the mouse but not in rats.

Professor SPIESS (Frankfort) then gave an account of his experiments on injections of anæsthetics, especially of a solution of cocaine, into cancer of mice. Injections were given to 74 animals and in 54 of these the growth underwent caseous degeneration, the resulting débris being afterwards discharged. The effects were especially favourable in slowly growing tumours. In several cases mice which had recovered under the use of cocaine were reinfected a second and a third time by inoculation of cancer cells and again successfully treated by the above method.

Professor HERXHEIMER and Dr. HÜBNER (Frankfort) showed 20 patients who had suffered from cancroid disease of the skin and had recovered under the use of radiotherapy. The procedure consisted in first destroying the malignant epithelium by rays of high intensity and then applying weaker rays to produce cicatrisation.

Dr. LEWISOHN (Heidelberg) described the results which he had obtained by the use of radiotherapy in cancer, exclusive of cancroid disease. The x rays had an analgesic influence and in ulcerating growths the discharge became less abundant. In many cases a transitory diminution of the growth was obtained but permanent healing never occurred. The production of metastasis seemed to be accelerated by radiotherapy.

Dr. BORREL (Paris) spoke on the pathogenesis of cancer and mentioned cases in which cysticerci had been found in the centre of malignant growths occurring in the livers and kidneys of rats. He also said that an intestinal worm had been found in a lymphoma of the lung of a mouse. The hypothesis that intestinal worms might convey the virus of cancer in certain cases was in accordance with the frequency of cancer in the gastro-intestinal canal. He said, however, that a uniform etiology did not exist for the development of cancer which obviously was produced by manifold causes.

Dr. PRINZING (Ulm) said that there was a high mortality from cancer in Southern Germany, the Austrian Tyrol, and North-Eastern Switzerland, and he showed a map on which the respective districts were marked. It was remarkable that in a certain district some places showed a high while others showed a low mortality and that this state of things had continued for the last 25 years.

Dr. BEHLA (Stralsund) read a paper on the Relation between Water and Cancer in its Geographical Distribution.

Dr. STICKER (Berlin) read a paper on Endemic Outbreaks of Cancer.

The practical conclusions to be drawn from these papers were (1) that the transmission of cancer having been proved beyond controversy in animals, its direct transmission in the human subject could no longer be doubted; (2) that the frequency of cancer in certain families was to be explained by direct transmission; and (3) that if there were inoculable cancers, prophylactic measures against transmission should be taken to safeguard the healthy members of the family.

The only paper read by an Englishman was one on the Causes of Cancer of the Breast (Clinical), with some remarks upon the connexion between irritation and the production of malignant growth (experimental), by Mr. CECIL H. LEAF, surgeon to the Cancer Hospital, London. Mr. Leaf, having referred to the various clinical causes of cancer of the breast, in particular to the part played by errors of lactation, tuberculosis, and climatic conditions, stated that his work of many years had failed to produce anything comparable to cancer by irritation of the mammæ of dogs.

Several papers were read treating of the Chemistry of Cancer.

Dr. SPRUDER (Friedland), as a result of his work in the field of micro-chemistry of cancer of the skin, thought that he could prove the presence of a special ferment in the blood-vessels.

Professor BLUMENTHAL (Berlin) read a paper on Chemical Degeneration in Cancer Cells. He said that there were many differences between the chemical physiology of normal cells and cancer cells; the proportions of albumin and globulin were different; the action of gastric juice was not the same in these cells. These chemical differences might account for the destruction of normal cells by cancer cells and might lead to the cancerous cachexia and to the spread of cancer cells among, and into, the normal tissues.

Dr. BERGELL (Berlin) read a paper on the Chemistry of Malignant Tumours.

A series of interesting specimens of fish cancer and pigeon cancer was shown by Dr. LOEWENTHAL (Berlin), who considered these to be intermediate between tumours and an inflammatory condition.

Dr. CARL LEWIN (Berlin) related his Results of the Inoculation into Animals (Dogs) of Human Cancerous Tissue (Ovarian Cancers).

Dr. L. MICHAELIS (Berlin) reported on his experiments on: (a) immunisation of mice against cancer, and (b) transplantation of rat cancer. His results confirmed those of Ehrlich, though his chief aim, to make clear the nature of immunity, had not been realised.

Dr. LEDOUX-LEBARD (Paris), the author of "La Lutte contre le Cancer," in a short address appealed to all educated people for their coöperation in the study of cancer.

Professor GEORGE-MEYER (Berlin), the general secretary of achieved in Marseilles, though, from the sanitary point of view, this used to be one of the most hopeless towns in Europe.

To-day the members of the congress are making an excursion to Monaco and Nice where they will inspect various sanitary services. Last Wednesday M. Chanot, mayor of Marseilles, entertained the members of the congress at the town hall. At a banquet given on Friday the French Government was represented by M. Dabut, Director to the Ministry of the Interior, and M. Massier, Prefect of the Department. Dr. A. Gueirel, president of the Departmental or County Council of Hygiene, presided throughout the meeting of the congress.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Water-supply.

SEPTEMBER was a very dry month, and though the rainfall in October has so far been much greater it has only just kept pace with the demands on the Longdendale reservoirs and has not been sufficient to add to the storage. On Oct. 18th there was enough for 75 days' supply, the daily consumption being calculated on a basis of 33,000,000 gallons as the total daily consumption over the area of supply. At the same date last year there was sufficient for 132 days with a daily consumption of 36,000,000 gallons.

Southport Shrimps from Holland.

Southport shrimps have for many generations held their heads very high as belonging to the highest grade of crustacean aristocracy. In these degenerate days, however, the pressure of keen, if not fraudulent, commercialism has brought about a deplorable change. The demand for Southport shrimps continues, but the local supply is insufficient to satisfy it, so Dutch shrimps, well loaded with boric acid, are brought over to be converted into Southport shrimps. One of the local dealers sent consignments of shrimps to Bradford last week and in two samples taken 107 and 83 grains of boric acid were found. The solicitor for the defence was apologetic as to the boric acid, acknowledging that there was too much of it and he stated that in a similar case in Manchester which lasted six days, "it was tacitly agreed that the amount of boric acid which could be put in was 35 grains to the pound." He said that these were Dutch shrimps and that at present the Dutch industry was a large one and if they were imported they would need some preservative "owing to their delicacy." His Southport clients were "small people" who imported these Dutch shrimps and sold them just as they came as Southport shrimps. So that they were not too small to be guilty of a double fraud. The prosecution considered that the case showed the need for the dealers to obtain a warranty with such articles. Unfortunately it does. It is no doubt a fact that these petty and mischievous frauds as to foods are shamefully frequent and they will scarcely be checked by fines of £2 and £2 11s., which the culprit paid in this instance.

To the Workhouse instead of the Hospital.

The deputy coroner of Manchester, Dr. W. Sellers, wrote to the Prestwich board of guardians about a week ago, with respect to the death of a woman who fell down stairs, was taken to the workhouse in an unconscious condition, and died from concussion of the brain. She was not seen by the medical officer until two and a half hours after admission and the jury recommended that a resident medical officer should be appointed at the workhouse to attend to urgent cases. It was held by the board that the workhouse was not intended for accident cases such as this. It is not easy to understand why the woman was not taken to the Ancoats Hospital or the Royal Infirmary, either of which was more convenient as well as more suitable than the workhouse. The accident, it seems, happened on Oct. 9th, and yet the case was not sent to the workhouse until the evening of the 10th, so that there was plenty of time to have considered the most suitable place for her reception. It was stated that when the new workhouse hospital was completed a resident medical officer would be appointed.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

A Difficulty under the Infectious Diseases (Notification) Act.

THE Local Government Board, having asked for a special report as to the proposal of the Dolgelly rural district council in North Wales to omit measles from compulsory notification, Dr. Hugh Jones, the medical officer of health, submitted a lengthy and detailed report in which he said that measles presented peculiar difficulties in the way of adopting preventive measures usually more or less successful in other infectious diseases. His experience of the district was that medical advice was not generally sought in mild forms of measles, so that the cases would still run the risk of escaping detection and he was afraid that complete notification was impossible. Isolation in the houses of the poor was naturally quite impracticable and, unfortunately, there was no hospital accommodation even for other diseases more amenable to isolation. Even in a rural district, where closure of schools might be expected to be of special value, great difficulty was experienced in keeping children apart. They met in one another's houses, in chapels, churches, Sunday schools, singing meetings, and public places. Dr. Jones was thanked for his report which was directed to be forwarded to the Local Government Board.

University College of South Wales and Monmouthshire.

At the annual meeting of the court of governors of the University College of South Wales and Monmouthshire, Principal Griffiths alluded to the increasing importance of the medical department of the College. The number of entries this year was 29. In the whole College there were 194 new students, compared with 178 last year.

Pollution of the River Avon at Bath.

Nearly all the sewage from the city of Bath and from the adjoining rural district is discharged untreated into the river Avon and although the corporation of Bath and the rural district council have frequently been asked to take steps to stop this pollution nothing of a practical nature has yet been done. Some ten years ago plans were considered for dealing with the city sewage, but the project was abandoned owing to the great cost that it would entail. The Somerset county council has now given definite notice of its intention to take legal proceedings under the Rivers Pollution Act against the sanitary authorities concerned.

Herefordshire County Council.

At the last meeting of the Herefordshire county council a letter was read from the Local Government Board requesting that the Board might be supplied with a copy of any abstracts of the reports of the district medical officers of health in the county which the council may have caused to be prepared. As a fact, the only abstract of these reports which has ever been made is contained in a report presented by the general purposes committee and which consists merely of a statement as to the birth-rates and death-rates recorded in the six urban and 11 rural districts in the county. The figures thus tabulated are of little value in ascertaining the true condition of the county as a whole from a public-health point of view. No information is given as to the prevalence or fatality of particular diseases.

Elementary Education and Medical Officers of Health.

At a meeting of the West of England and South Wales branch of the Incorporated Society of Medical Officers of Health held at Cardiff on Oct. 18th, Dr. J. D. Jenkins, the president of the branch, dealt with the question of elementary education from the point of view of the medical officer of health. He said that public health, as usually understood, was largely a branch of education in its widest sense, for the ordinary duties of a medical officer of health and his staff were in great part but a series of object lessons in the prevention of disease. Until quite recently very little importance appeared to be attached by the central education department to the physical welfare of the scholars, as evidenced by the want of prominence given to, or the total neglect of, subjects the teaching of which would tend to create in every child a wholesome respect for his personal well-being and would consequently foster the cultivation of habits inimical to the violation of the laws of health. He thought that the staff of the Board of Education might well be augmented by great engineering works were initiated many years ago by the father of the general secretary of the congress, M. de Montricher, but they were never completed. Marseilles has an abundant supply of what was qualified by the congress as "second-class" water: *it was, indeed*, argued that in many cases and in many towns it would be necessary to have two classes of water: one for washing the streets, putting out fires, flushing drains, and various industrial *purposes. This would* be the second-class supply. The first-class supply would be *reserved exclusively for* drinking and culinary purposes. At Marseilles it is necessary to take a portion of the existing second-class supply and so to filter or to sterilise it as to render it a first-class water. When *this is done we are promised* that there will be fewer cases of infantile diarrhœa and enteric fever.

Of course, many discussions related to maritime questions and the port sanitary medical officer, Dr. Torel, took a prominent part in these debates, besides conducting the whole congress *to visit the lazaretto* and disinfecting station at Frioul. He explained that in the course of a *year some 26,000* Syrians came to Marseilles as emigrants on their road to North or South America. They were very poor and dressed in so extraordinary a manner that it had been necessary to *issue a police edict forbidding* them to land unless they wore something *approximating* to European *clothes. On shore* they slept in extremely unhealthy places where the rent they paid only amounted to 2½*d.* per day. Attempts had been made to build special shelters for these people but *these had failed*. In 1884, *during the war in Egypt*, their numbers so increased that a camp was prepared for them but here they soon fell ill and many contracted small-pox. Who was to build a suitable place for these people? If the State took the matter in hand private speculators would *complain. Dr. Torel proposed that in* regard to the price charged for the journey, the company, which had well nigh monopolised this business, should add a hotel charge for the keep of these people while they were at Marseilles. Some old ship might be anchored at a convenient station and used *as a hotel for this class of emigrants. Such a measure would* save Marseilles from some risks and much trouble while preserving to the town the £320,000 derived annually from this flow of emigration.

Another very interesting paper was read by *Dr. A. C. Tartarin on the Feeding of Sailors by some French* Mercantile Companies. Giving figures in detail he showed that one-fifth of the calories obtained were derived from alcohol, either in the form of wine or rum. He estimated that half a litre of wine gave *267 calories. Then when the food* was *bad a cask of* rum was placed within reach of the men and they were told not to touch it. Nevertheless, they helped themselves and nothing was said. On the other hand, the men, having taken the rum, could not make complaints as to *the insufficiency of food. Thus they were still* further dependent on alcohol. The firemen on the ships in question had a half litre of wine extra and a larger portion of rum, so that one-third of the calories were in their case derived from spirits and wine. *What, asked Dr. Tartarin*, would *shipowners say if their engines were* fed with equally bad or unsuitable coal. Officers were allowed a bottle of wine per meal and a litre of spirits per fortnight. In the case of passenger ships, however, the crews were much better fed because *there always remained enough from* the *table of the* passengers. Thus alcoholism was not prevalent among the crews of passenger ships but it was very general among the crews of cargo boats. Here a significant incident occurred. A young physician, *practising at the principal* hospital of Marseilles, said that he had often wondered *how* it happened that men who were constantly at sea, who had very responsible duties to perform needing great steadiness and sobriety, who, in fact, were by nature sober, trustworthy men, nevertheless presented symptoms of alcoholism. *The details* given as to the nature of their diet provided the explanation. These men did not get drunk but their constitutions were gradually undermined by taking more alcohol than the amount of food which they *consumed* justified.

A good deal also was said about disinfecting ships and killing rats. The principal difficulty mentioned at present is the dearness of the apparatus used, *whether it be the* French *appareil Marot* or the English Clayton system. An earnest wish was expressed for more competition among manufacturers so that the port sanitary authorities should be relieved from the necessity of paying monopoly *prices.* If several ships were simultaneously *to require* to be disinfected *at Marseilles delay*, in the present circumstances, would inevitably occur. One *good point to note is* that none of the shipowners have complained of any damage done *to the* cargoes by these methods of killing plague-bearing rats and fleas. *But* in all these questions of controlling the healthiness of the ship, as *Dr. Reynès* well pointed out, the ship surgeon must be absolutely *independent of the owners* of the ship.

In regard to sanitation on shore a somewhat futile *debate* took place on the question of tuberculosis. Near *Marseilles a sanatorium has been built* on the principles enunciated by Dr. Calmette. The drawings *shown and the* details given seemed most hopeful, when some marplot inquired how many patients the sanatorium could hold and how many cases there were supposed to be at Marseilles. Though *no actual figures were given in reply it* had to be admitted that the sanatorium was but a model, a type of what might, and should, be done. But when compared with the extent of the evil the relief was of very small account. Of *greater importance is* the work done by the anti-tuberculous dispensary which *several members of the Congress visited. Here* in less than three months more than 7000 consultations have been given and 592 families assisted, receiving, among other things, 13,775 kilogrammes of meal, 101,294 litres of milk, and 124,132 *eggs. In 29 cases money has* been paid so that the persons afflicted might remove to more healthy quarters. The evidence obtained at Marseilles confirms the general opinion that unhealthy dwellings are the principal cause of tuberculosis. This opinion added to the interest of the *papers and debates relating to domestic hygiene. Thus*, Commandant Hoc presented an illustrated report on the portable stoves now in use and he concluded that whenever an accident happened a scientific inquiry should be held by experts, *as was* done *in the case of* boiler explosions. M. Augustin Rey thought that the fundamental *error was* the employment of metal. At the St. Bernard monastery he had found a stove 300 years old but it was made of fireclay. This was also the case throughout Russia and no one had heard of *people being poisoned by the fumes of stoves* in Russia, but there clay alone was employed in their structure. M. Rey, who is an architect, also had a great deal to say about block building or flats. He was anxious to abolish internal courts which are never properly *ventilated. Instead* of a *hollow* in *the centre of a square* block he would build *on* the site of the central court and give the same amount of air space in the front and the back of the building. The plan instead of a square would appear like two *T*'s, one under the other. The *frontage of shops would be preserved* but *in the* bays thus created there would be no apartments above them. Further, he thought that the windows ought to reach the ceiling of the rooms, as the best light came from the highest part of the window. The orientation and *the light of* the house *should be so calculated* that every room could receive for a *few* hours the direct rays of the sun. The window, he urged, is for light, not for air. The surfaces required for ventilation vary according to the methods employed and the *condition of the* temperature or the wind. They have nothing whatever to do with the question of light. The internal courts dated from the Middle Ages and had their sanction in the necessities of defence. To-day the *only* defence required was against the *dangers of stagnant* air. Therefore he was of opinion that if the court were put outside the dwelling the air would circulate freely with that of the street, the street would be rendered wider, and the sun's *rays* would more easily reach *all parts of the dwelling*.

The *old dust-bin* problem came in for its share of discussion and the necessity of shafts in houses built as flats was generally recognised, otherwise objectionable material would remain in the kitchen. *Thereupon M. G.* Tirlicien unfolded a paper parcel and showed some material that looked like cinders. He said it was both "hard and soft core" ground together in a machine. *The crusher*, in revolving with great rapidity, *caused a strong draught to* pass through and *this helped* to oxidise the materials, while the *dry* or hard core further helped to absorb and to purify the soft or moist core. As this was the first time such a *process* had been proposed the congress *reserved its opinion*, but on the other *questions resolutions* were passed in the sense indicated by the discussion.

Altogether medical men, civil engineers, *architects, and* the representatives of a *number of* French and foreign *municipalities have spent* a pleasant and instructive week *together.* Above all, they have seen that by the realisation of the general drainage schem

> place before you the causes of death of the other 4083 who died during the year. (Belfast Health Report, 1899.)

It will be interesting to watch what the issue will be now, the whole city being so roused about public health matters.

Rotunda Lying-in Hospital.

Extensive additions and alterations are now being made in the Rotunda Hospital and it is expected that they will be completed at a cost of about £10,000 in January next. A new wing has been built on the site of the old colonnade and patients' entrance on the west side of the existing building. On the ground floor a spacious entrance hall has been erected for the admission of patients to replace the old porch or lodge which proved inconvenient and unsuitable.

Royal Commission on Trinity College.

The Royal Commission dealing with Trinity College and the University of Dublin continues to hold its sittings for the examination of witnesses. At the meeting at Trinity College on Oct. 22nd Dr. Anthony Traill, LL.D., M.D., Provost of Trinity College, was again examined.

The Health of Belfast.

On Oct. 17th a large and influential deputation from the citizens' health committee of Belfast waited upon the Chief Secretary for Ireland, in Dublin Castle, with reference to the general health of Belfast. Among the members of the deputation were leading merchants of the city, representatives of the clerical, legal, and architectural professions, and the following medical men: Dr. W. Calwell (President of the Ulster Medical Society), Professor J. A. Lindsay, and Professor J. W. Byers. The discussion that took place was in private but at its conclusion a memorandum was drawn up stating what took place, and this was afterwards submitted to Mr. Bryce for his corrections. This memorandum constitutes an official report and has been given to the press. The public consequently know that Mr. Bryce heard with every sympathy the best scientific views on the lamentable position of Belfast in the matter of preventable disease, though he was unable to promise the Royal Commission of Inquiry for which the deputation asked. It was, he thought, possible that certain powers possessed by the Irish Local Government Board, but not yet exercised in connexion with Belfast, might meet the case. The Vice-President of the Local Government Board, Sir Henry Robinson, explained to the deputation the powers of his Board and it now remains to be seen whether the deputation and their backers, who are, as Mr. Bryce described them, both influential and representative, will persist in pressing the claim for a Royal Commission. The circumstances in Belfast may well ask for an extraordinary remedy.

Purdysburn Fever Hospital.

The medical men, nurses, and all those who were appointed to positions in connexion with the Purdysburn Fever Hospital, Belfast, are to take up their duties on Nov. 1st, and in the meantime the public health committee is to fix a suitable day to open the hospital for the reception of patients. At last this hospital—in the opinion of many the only real attempt made by the city corporation of Belfast to cope thoroughly with any public health question—is to be ready for patients. We may be thankful for the new institution, but we cannot but remember that it is many years since the Notification of Infectious Diseases Act was adopted, while there is hardly a town in England and Scotland of a similar size to Belfast which has not had a municipal fever hospital long since.

Belfast Medical School.

The inaugural address to the students of the Belfast Medical School was delivered at the Royal Victoria Hospital on Oct. 17th by Mr. J. A. Craig, assistant ophthalmic surgeon to the hospital, who took as his subject Medical Education. In the absence of the chairman of the staff Professor Lindsay presided and there was a large attendance of students and members of the teaching staff.

Cork District Lunatic Asylum.

At a meeting of the committee of management of the Cork District Asylum held on Oct. 16th a letter was read from the Lord Lieutenant stating that the casting vote given by the chairman of the meeting on Sept. 18th was illegal and that the election of Dr. J. P. Cashman as resident medical superintendent was therefore invalid. His Excellency also stated that he did not consider the salary of £500 increasing by annual increments to £700 sufficient considering the duties to be performed and requested the committee to consider the matter before it proceeds to another election.

Oct. 23rd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Radio-activity.

IT is announced that Madame Pierre Curie will lecture on Radio-activity in the amphitheatre at the Sorbonne every Monday afternoon beginning with Nov. 5th. At a meeting of the Academy of Sciences held on Oct. 8th M. Berthelot delivered an interesting discourse on the effect produced by radio-activity on the colour of precious stones. He had found that the amethyst, the topaz, the emerald (*fluorines*), the sapphire and the ruby (*corindons*) lost their colour under the influence of heat. Amethysts heated to 300° C. remained transparent but became colourless; the original colour was, however, regained under the influence of the radio-active emanations of radium exerted even through several thicknesses of glass. When acted on by radium glass assumed a violet tint which was lost on exposure to heat but returned even at some depth in the glass under the influence of radio-active emanations. A similar effect was produced by the x rays and even by solar light, but the latter acted much more slowly than the two former. The case was different with emeralds, which lost their colour when heated and did not recover it when exposed to the influence of radium. Rubies were very resistant, preserving their colour even when heated to bright redness. From these investigations M. Berthelot concluded that precious stones might have acquired their colour through the operation of the radio-active emanations which were so often met with in hot springs and in various soils. This might happen even if the precious stones lay at a considerable distance from the radio-active centre.

Urethroscopy in Chronic Urethritis.

At the Tenth Congress of the French Association of Urology M. Lebreton described the results of his experience based on about 200 cases. After having discussed the various lesions of obstinate chronic urethritis, such as soft infiltration, hard infiltration, glandular lesions, and papillomatous formations, he mentioned the methods of treatment which had given him the best results in each of these cases. With respect to urethroscopy, he said that in obstinate urethritis it was very helpful as a means of diagnosis, but it could not be regarded as therapeutically important. Only glandular lesions and papillomatous formations were capable of being really benefited by it.

The Determination of Chloroform in the Organs and Tissues.

At a meeting of the Academy of Medicine held on Oct. 9th M. Gréhant read a report on a communication made by M. Nicloux, who has discovered a very simple and accurate method of estimating chloroform and has used it in investigating certain phenomena of chloroform anæsthesia. For dogs the anæsthetic amount was a little above or below 50 milligrammes per 150 cubic centimetres of blood, while the corresponding fatal amount was a little above or below 70 milligrammes. The amount required for the production of anæsthesia was therefore not far removed from a fatal dose. Chloroform was rapidly eliminated from the blood but remained much longer in the tissues; the brain and especially the spinal bulb retained the largest proportions of it. In the blood it was taken up by the red corpuscles. Chloroform passed from the mother to the fœtus and made its appearance in the milk of animals which were suckling their young.

Oct. 22nd.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Medical Profession and the Public.

THE statute governing the profession of medicine contains a clause under which practitioners are bound to give medical advice or help when required and refusal is a contravention of the law. This clause has frequently been the cause of unpleasantness between the medical profession and the public, but such incidents have recently increased in number the appointment of men who had undergone a medical training somewhat after the lines of the medical section of the Local Government Board. The first desideratum appeared *to be the education* of the central authority, education of the kind that will convince them of the wisdom of seeking the aid and advice of men with special knowledge and experience Dr. Jenkins referred to the sections dealing with public elementary schools in the Rhondda valleys contained in a recent Act of Parliament. The medical officer of health is empowered by this Act to require any scholar to be excluded from school attendance who is suffering from an infectious disease or who is likely to spread infection. Head teachers may also be required to furnish the medical officer of health with a list of the children attending school together with their addresses.

The Midwives Act in Cornwall.

A meeting of the committee appointed by the Cornwall county council under the Midwives Act was held at Truro on *Oct.* 18th under the presidency of Mr. J. M. Nicholls. The subjects of discussion included several complaints of uncertificated women acting as midwives. The committee decided that as it could not undertake a prosecution before 1910 the persons complained of should be cautioned against taking or using the name *of midwife*, or using any name implying that they were *certified under the Act, or were* qualified to practise that calling.

Oct. 22nd.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Appointments to the Staff of the Royal Infirmary, Edinburgh.

AT a meeting of managers of the Edinburgh Royal Infirmary held on Oct. 15th the following appointments *were made* to the honorary *staff: Harry Rainy*, M.D. Edin., F.R.C.P. Edin., was elected an assistant physician; John S. Fraser, M.B. Edin., F.R.C.S. Edin., was appointed an *assistant surgeon in the ear and throat department; and* R. *Cranston Low*, M.B. *Edin.*, F.R.C.P. *Edin.*, was appointed second assistant physician in the skin department. Dr. Rainy is a graduate of 1891 and is best known as joint author with Dr. R. Hutchison of "Clinical Methods."

Municipal Candidates and Consumption.

In connexion with the *coming* municipal *elections* in Glasgow the joint committee of the Federation of *Friendly* Societies of Glasgow, comprising 100 lodges and branches, and the Glasgow Trades Council, comprising 140 trade union bodies, and representing 40,000 citizens, has addressed the following question to all candidates for the town council:—

> In view of the *prevalence* of phthisis in the city with its *consequent* mental and physical suffering and economic loss to individuals and their families afflicted thereby and in consideration of the now unanimous testimony of medical men that its propagation is not hereditary but contagious and that proper means being taken it can, *according* to the most eminent authorities such as Sir James Crichton Browne, Sir William Broadbent, and *others*, be *completely stamped out in a few decades as leprosy has been, are you prepared, if elected to* the *town* council to support energetically the movement for applying the powers of notification now possessed by the *corporation and* applied by them in the case of other diseases less malignant and less prevalent to phthisis?

Lunacy in Glasgow.

Mr. John Carswell, certifying physician in lunacy to Glasgow parish council, *has just issued his annual report on* the certification of lunatics and on the observation wards *under his care.* During the year there were certified 528 cases as against 583 the previous year and 544 the year before. Of the 528 cases *certified,* 164 *had* suffered from previous attacks of insanity; the remaining 364 represent the actual number of persons who *became insane for the* first time during the year. It is to be kept in view that the *persons referred to* in this connexion are those *whose names are placed* upon the register of pauper lunatics for the first time in each year. This is the nearest approach that can be got to the actual occurrence of *insanity, but, of course,* the *insanity may have existed* long before application is made for the assistance of the inspector of *poor in the* care and treatment of the patient in an *asylum.* The number of persons thus *indicated represents* the annual production of pauper lunacy. The proportion per 100,000 of the population who, in the sense *indicated,* became insane during the year was *58·7, which* is 10·5 per 100,000 less than *the previous year* and is the lowest production rate since 1900. Reduced to a proportion per 10,000 it means *that less than six persons* per 10,000 of the population became pauper lunatics during 1905–06. When *viewed* in *the mass* the statistics of pauper lunacy look alarming, but a production rate of less than six per 10 000 in a large industrial population like Glasgow does not look alarming. When the figures are still further *analysed* the grounds for alarm are no stronger. At all ages below 60 years there has been *no increased* production *of insanity during the last six* years, and particularly at the ages 15 to 45 years (during which race decay, if it existed, would increasingly show itself as a factor in the production of insanity) there has been no increased production. The rate has *also this* satisfactory feature, that it shows very slight variation from year to year, which indicates that, whatever may be *the causes of insanity* in that period of life, they are not such as would be *produced* by *gross and violent* departures from ordinary habits of life. Mr. Carswell comes to the conclusion that although there are more patients *under asylum care than formerly this does* not justify the view that there is an increased prevalence of insanity. He also holds that the growth in the number of persons of unsound mind under *official* care has nearly reached its limit. In *dealing with the observation wards in the Eastern District* Hospital Mr. Carswell states that during the period since the opening of the wards on June 15th, 1904, till May 15th, 1906, *the admissions* numbered *1077. It is evident that* the observation wards have *fulfilled a useful function when we find* that 50 per cent. of the cases reported as requiring care and treatment on account of mental unsoundness have been found *suitable for probationary curative care in the observation* wards; and of that number 61·5 per cent. were discharged recovered or improved, 6·7 per cent. died, and 28 per cent. were certified insane.

Oct. 23rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Corporation of Belfast and the Public Health.

AT *a meeting* of the public health committee of the corporation of Belfast, held on Oct. 18th, the new *medical* officer of health, Mr. H. W. Bailie, submitted his first report to the effect that 12 cases of typhoid fever, 45 of scarlet fever, and eight of diphtheria had been notified during the week. He also reported *that six cases of typhus fever* had occurred in the Ballymacarrett district, five of which had been notified *as being typhoid* fever. Dr. C. J. Clibborn (medical inspector, Local Government Board), who was *present, said* that medical men should *not notify any case of infectious disease until they were thoroughly* satisfied as to the nature of the illness. There being such a difference in the temperature and appearance of patients suffering *from these* two fevers, he could hardly understand *how* such a mistake occurred. Mr. Meyer (chief clerk) read a half-yearly return from one of the medical officers of health regarding the condition of his dispensary district, and pointed out the incompleteness *of the replies* to the queries as set forth. He also read the duties of the district medical officers of health as laid down by the Local Government Board in its sanitary Orders. Mr. Bailie said that he was making *arrangements* to hold a *conference* with the district medical officers of health at an early date, and he would bring under their *notice* the opinion of the committee *relative to the* discharge of the duties *of their positions. This* will raise the whole *question of* the exact position of the 14 dispensary medical officers of Belfast, all of whom are the local officers of health of their own districts, and of their relationship to the medical superintendent *officer* of health of Belfast. The dispensary medical officers are appointed *not by the* corporation *of* Belfast but by *the board of guardians,* and it is to the Registrar-General that *they* send their *returns* of births and deaths. *The* late medical officer of health (Dr. H. Whitaker) tried to make an arrangement by which they would give a *copy* of these death returns to him and they offered to do so on the payment of a *small sum,* but the corporation refused, and *so the* late medical *officer* of health used to put in his reports a paragraph of which two samples *follow*:—

> *I regret that* I have not the information which would enable me to place before you the causes *of death of the remaining 3700.* (Belfast *Health Report,* 1904.)
>
> I regret that I have not the information which would enable me to

enough, the eggs of this new parasite have not yet been found in the urinary passages, though there are lesions in the rectum, appendix, mesenteric glands, gall-bladder, pancreas, and liver. This worm, in Japan at least, is found to infect cats as well as men. Mr. Montgomery, a veterinary officer in India, has lately added to our knowledge by reporting the discovery of yet another parasite, which he calls schistosomum Indicum, so far found in the alimentary canal of donkeys, horses, oxen, and, most commonly, in sheep.

Helouan Baths.

Dr. H. Overton Hobson has just published a little book based on his experience of five winters at this health resort. He describes in detail the special Helouan bath, which is similar in principle to the Aix douche massage. In the case of the latter there are two gentle streams of water issuing from pipes which are manipulated by two attendants, who at the same time give massage to the patient. In the Helouan bath the whole body is kept under water regulated to the temperature ordered by the physician; the two masseurs having no hose-pipes to manipulate are free to devote all their attention to rubbing the patient. The sulphuro-saline water, stronger than any in Europe, is allowed to run through the bath continually and is never diluted by mixing with ordinary hot water. The bath establishment was opened seven years ago, and from the cripple's point of view has the great advantage of having no steps. There was a time when Helouan was peaceful to the extent of dulness. But thanks to Dr. W. Page May there is now an excellent golf course on the sands, which provides amusement for the British and the Americans, and two or three times a year there are race meetings, to say nothing of riding, dances, and lawn-tennis parties.

Société Khédiviale de Médecine.

This medical society began very modestly in Cairo a few years ago and has now published its first volume of transactions. Unfortunately, the discussions are usually in French, which debars many English practitioners from taking much interest in the society. Among the curiosities of the last year I may mention a case of syphilis with chancre in one tonsil, producing painful dysphagia. This symptom disappeared after five mercurial injections administered by Dr. Jeannovich. Dr. Pfister showed a woman with a hydatid tumour of the parotid gland, which must be a very rare site in any country.

The Wakfs Charities.

This department of Mussulman Ecclesiastical Commissioners is richer and more generous than it used to be before the Government helped them to control their finances. They now have an annual hospital budget of £2000 and employ 14 native doctors. At El Azhar University in Cairo they have established a small hospital of 30 beds, much wanted for the thousands of students, many of whom look wretchedly pale and ill. At each of the out-patient dispensaries in Boulac, Old Cairo, and Menshia quarters about 100 patients are seen every day except Friday, while at the Kalaoun Mosque some 500 eye patients attend daily. In Alexandria and Tanta out-patient dispensaries have also been started. Men, women, and children are prescribed for gratuitously, and naturally most of them are Mahomedans, but Jews and Christians are welcomed if they care to attend. The Wakfs also supply a doctor and a druggist to attend the poor during the pilgrimage to Mecca, in addition to the doctor supplied for the various officials of the pilgrimage.

Church Missionary Society's Hospital.

This hospital in Old Cairo continues to do useful work. There are now 100 beds, besides two shelters for 40 patients suffering from ankylostomiasis, who sleep for a day or two at a time on trestle bedsteads during their treatment. Three women nurse probationers are being trained in the wards, a Syrian, a Soudanese, and an Egyptian. The new operating theatre is well furnished, its walls have all corners rounded and are painted with several coats of enamel paint, and it is well provided with light by means of a huge plate-glass window. Some thousand operations for trichiasis are performed during the year and almost a similar number of other operations, many of which are for tuberculous glands, necrosis, hernia, vesical calculi, &c. The number of patients suffering from ankylostomiasis treated during the year is about 1300.

Oct. 11th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

The Consumption of Alcohol and Tobacco in Canada.

THE official year of the Canadian Government ends on June 30th. For the 12 months immediately preceding that date of the present year the *per capita* consumption of alcoholic liquors and tobacco in Canada was as follows: spirits (gallons), 0·927; beer, 15·660; wine, 0·088; and tobacco (pounds), 2·991. The consumption of spirits showed a decrease, whilst there was an increase in beer, wine, and tobacco.

Toronto and McGill Medical Schools.

The medical department of McGill University, Montreal, opened for the session 1906–07 about the middle of September, with an increased attendance, bringing the total number up to about 400. Dr. R. F. Ruttan, professor of chemistry in that institution, delivered the opening lecture. He made historical references to the founding of the medical school in Montreal and stated that the present was the seventy-fifth session. He then proceeded to advocate an extension to a five-year course and an arts degree, special study in the scientific branches related to medicine to be taken during the pre-matriculation education. At Toronto the opening ceremonies took place somewhat later—namely, on the evening of Oct. 3rd. The freshman class numbers 179, which will place the total attendance in the neighbourhood of 700. Sir Almroth E. Wright of St. Mary's Hospital, London, England, delivered the opening lecture, his subject being "Inoculation with Bacterial Vaccines."

Medical Inspection of Schools in Montreal.

The Montreal city council has recently appointed 40 medical men to act as medical school inspectors in that city. Inspection will be given a trial of three months, when, if it proves satisfactory, it will become a permanent institution. That inspection is needed in the city may be inferred from the report of one of the inspectors. Most of the reports show overcrowding and a bad condition of affairs as regards diseased children. The report of the inspector referred to states that 33 pupils out of a class of 65 were attacked by measles as the result of one pupil suffering from the disease attending that class; 15 per cent. of pupils at one school were found to be suffering from defective eyesight; 40 pupils were crowded into one class-room where the cubic contents of air barely sufficed for 15; and large numbers of pupils were found showing signs of tuberculosis and insufficient nutrition.

Death of Dr. James Stewart of Montreal.

Dr. James Stewart, professor of medicine in McGill University and senior physician to the Royal Victoria Hospital, Montreal, died at his home in that city on the evening of Oct. 6th. The cause of death was apoplexy, the onset having occurred one evening directly after dinner about nine days ago. The late Dr. Stewart was born in Ontario in 1846. He pursued his medical studies at McGill University, from which institution he graduated in 1869 when 23 years of age. He continued his medical studies at Edinburgh, London, Vienna, and Berlin, and was admitted L.R.C.P. and L.R.C.S. Edin. in 1883. He practised for a few years in his native province, moving thence to Montreal, where from 1883 to 1891 he was professor of materia medica and therapeutics at McGill University. Since 1891 he has held the chair of medicine and of clinical medicine. In 1903 he was President of the American Association of Physicians. He was a member of the British Medical Association and was a vice-president of the Section on Medicine during both the Montreal and the Toronto meetings. He was also a prominent member of the Canadian Medical Association, of which he was at one time general secretary.

New Health Board for Ontario.

Speculation has been rife in the medical profession in the province of Ontario owing to the fact that the Government in reorganising the Provincial Board of Health contemplated taking a step in advance and creating a new department, to be under a responsible Minister of the Crown, and to be called the Department of Public Health. But those who would gladly have heralded such a step have been disappointed owing to the fact that the Government has just perpetuated the old order of things with an entirely new on account of the development of organisation amongst medical men. Patients who habitually neglect to pay fees for medical attendance have in several instances been placed on an "index," whereby practitioners whom they consulted were forewarned that no remuneration was likely to be forthcoming. On the other hand, complaints have been made that some practitioners did not attend to calls at night, and in one instance a man claimed damages from his family medical attendant for "neglect" because the latter had not visited him when sent for at night. The action failed but a discussion in the newspapers ensued, with the result that legislation is being called for to remedy the present state of affairs. The Union of Medical Associations, a vigorous combination for the defence of medical interests, has formulated a list of grievances and drafted a Bill which will be brought before Parliament with a view to the reconsideration of the entire question on modern lines. A revision of the antiquated scale of fees for medical experts in lawsuits and questions of State medicine has already been obtained, with a favourable result for the medical man. The system under which medical practitioners are compelled to give advice and treatment ought to be abolished, being as it is an occupational anomaly. The relation of the profession to friendly societies, clubs, and contract practice will also be reconsidered, so that an era of activity is in prospect for medical circles.

Increase of Alcoholism amongst Women.

The report of the Lunacy Commissioner for Lower Austria discloses the remarkable fact that whilst alcoholism amongst the different classes of the male population shows no increase and is even tending to decline, the ratio of female inebriates under the observation of the Commissioner is slowly increasing. The diminution of inebriety amongst males may be due partly to the strict organisation of workmen's clubs and partly to the example set by many industrial and commercial firms which favour teetotalism or abstinence. The manufacture of alcoholic beverages is also on an increasing scale, and the facts may perhaps admit of the explanation that at the present time a comparatively small number of persons drink more than they did 10 or 15 years ago. Crimes and mental diseases due to alcohol are, however, not declining. The fact that female criminals and female lunatics are found more often than before may also be due to the drinking habits which prevail among certain sections of the working classes.

The late Professor Weinlechner.

A few days ago Professor Weinlechner, the surgeon who was several times called upon to attend His Majesty the Emperor, died suddenly whilst enjoying his favourite sport of hunting. He was formerly assistant to Professor Schuch, whom he eventually succeeded, and attracted considerable attention by his utter neglect of conventional forms of speaking. He was of humble origin, his father being a poor peasant but the boy being possessed of uncommon talent and perseverance attained the highest honours open to a medical student and when he became a man he was no less diligent. After the age of 70 years he retired from his post as director of the third surgical department in the general hospital, only to return to it as a daily visitor. His death came as a surprise to all, in spite of his 78 years.

Proposals for preventing the Repetition of Prescriptions.

The misuse of prescriptions by the public and the ease with which active drugs may be repeatedly obtained from the dispensing chemists have given rise to a movement amongst the profession to alter the rules regarding prescriptions. A committee of the Vienna Aerztekammer has made the following suggestions. In the first place, it is recommended that a prescription should bear the remark, "Ne repetatur post unum annum," or "post duo ...... tres annos," so that it cannot be repeated for an indefinite time. Furthermore, to prevent repeated use of dangerous drugs like morphine, cocaine, digitalis, and arsenic, the remark "ne repetatur" or "bis ...... ter repetatur" should be written plainly and be obligatory on the dispenser who will have to mark the date every time the prescription is dispensed. Certain remedies should be dispensed only for the medical man himself, and should bear the remark "ad usum proprium." The difficulties to be overcome are not insignificant, as the interests of the public, the pharmaceutical chemists, and the medical profession are not easily brought under one rule. With the appearance on the market of many modern medicines which are powerful drugs and at the same time very convenient and useful, the difficulties are increased because many of these drugs may be bought without a written prescription. A revision of the Poisons Act is therefore inevitable.

Rupture of the Stomach by Inflation.

A patient in one of the medical wards of the Vienna General Hospital has been the victim of a remarkable misadventure, the details of which leaked out in consequence of the action taken by the relatives. It seems that on account of the unsatisfactory material and financial position of the hospital staff an insufficient number of qualified medical men are retained for clinical work and the vacancies are filled by appointing "hospitants," or medical students, who are placed in charge of a few beds. In the clinic of Professor Pal a patient with suspected malignant disease of the stomach received the usual test breakfast and after one hour the contents of the stomach were to be examined. The assistant physician in charge of the ward went away on duty, directing his "hospitant," who said that he had done such operations several times, to empty the stomach of the patient by means of an aspirating pump. The patient, who was rather nervous, complained of increasing pain and suddenly screamed out that she felt something give way in her inside. Collapse followed and when the physician returned a rupture of the stomach was recognised. Immediate operation failed to save the life of the patient. It came out that the air chamber had been connected the wrong way, so that instead of the stomach being emptied of its contents air was forced into it until its weakened walls burst at the margin of a flat carcinoma. Such cases are very rare, only a few being on record. The case was adjourned by the judge in order to call several witnesses to give evidence as to who was responsible for the incidents in the wards. The assistant physician in his defence pleaded the practice of employing "hospitants" for such minor operations; the hospital directors asserted that only medical men of at least the position of assistant might operate on patients; while the director of the wards held the insufficient number of the staff at his disposal to be the main cause of the accident, as the juniors were overburdened with administrative duties.

Oct. 22nd.

EGYPT.

(FROM OUR OWN CORRESPONDENT.)

Bilharziasis.

As his contribution to the "Studies in Pathology," written by *alumni* to celebrate the quatercentenary of the University of Aberdeen, Professor W. St.C. Symmers (now of Belfast) has published a remarkable case of bilharziasis discovered at one of his necropsies in Cairo two years ago. The patient was an Egyptian man, about 30 years of age; numerous bilharzia worms were present in the portal vein, and the liver proved to be a typical specimen of advanced bilharzial cirrhosis, a condition already well described by Professor Symmers. The cut section of the liver showed an enormous white periportal cirrhosis, contrasting sharply with the drab colour of the rest of the liver, while microscopically the eggs of the worm were abundantly distributed. The bladder showed only incipient changes, slight roughness and the well-known sandy patches of the mucous membrane. The pancreas appeared normal to the eye, but the microscope revealed a slight amount of cirrhosis and numerous eggs in the cirrhotic bands and also in the glandular tissue. Like other observers he noticed that the eggs in this organ were mostly broken and partly destroyed. Eggs were also found in the mesenteric glands, but the intestinal canal furnished the chief interest of the case. There were present (1) a growth of bilharzial fibromata of the intestinal wall; (2) a bilharzial fibrosis of the appendix; (3) an extreme bilharzial polyposis of the large bowel; and (4) a few bilharzial papillomata in the lower part of the ileum. Many young male worms were found lying in the submucosa of the bowel. The case is well illustrated, especially one part of the descending colon, which showed numerous large polypoid growths and fibrous thickening of the serous coat. It has always been considered remarkable that the schistosomum hæmatobium worm should be confined geographically to Africa, but during the last two years in many widely distant parts of China, in Japan, and in the Philippine Islands a sister parasite, schistosomum Japonicum, has been found by many observers. Curiously "patent medicines" should have their formulæ clearly set out in English upon the label. Because of the mistake in drafting the Health Act it was found impossible to include what the legislature really meant—secret and proprietary medicines. Coupled with this legal disability is the active opposition of some of the leading advertisers of quack remedies. In consequence of the publication of the analyses of several of the most widely advertised "patent medicines" on the market here and the deliverance of lectures by the chief health officer the attitude of the newspapers has completely changed. The Minister for Health has agreed to enlarge the phrase "patent medicines" to include all secret and proprietary remedies. When this has been done there will be no difficulty in putting a check upon the operations of the vast hordes which gull and live upon the ignorance of the medicine-imbibing public. Special attention was given to the electric belt rejuvenator and as a result the representative of the notorious "Dr." Maclauglin has left the colony. It is rumoured that his departure was so timed that one crate of "electric" belts and several bales of literature pertaining thereto were cremated the other day at the city destructor. All the leading newspapers have joined in the campaign and when the "soulless business manager," as the chief health officer described the man behind the gun, has been overcome the whole swindle will fall to pieces. A private member has given notice of a Bill which if passed will prevent newspapers from publishing the advertisements of any seller of a "patent medicine" which has not obtained the permit of the health department.

Fires on Wool Ships.

Owing to the fires which have taken place on board several of the ships carrying wool from New Zealand a Royal Commission was set up to inquire into the cause or causes. The Commissioners, after calling a great number of woolsorters, exporters, and shippers, have decided to call expert evidence to help them in the solution of the question. With the consent of the Government Dr. Mason, Dr. Maclaurin, colonial analyst, Mr. Aston, chemist to the Agricultural Department, and Mr. Gilruth have been asked to conduct any scientific experiments they may think fit which will help to further the objects of the Commission.

Water-supply.

A series of very important examinations has just been completed by Dr. R. H. Makgill, bacteriologist to the health department, upon the water-supplies of the chief cities in the colony. In no instance did he find evidence of bacterial contamination, although in some cases he has seen fit to advise that the water should be filtered in order to exclude vegetable impurities.

Workmen's Dwellings.

The first of these State experiments has nearly been completed. The object of the Government is to provide sanitary, comfortable, and artistic homes for working people at a fair rent. Several architects of eminence have been called in and they have been allowed free scope for displaying their individuality. The result is that all semblance of "model dwellings" is absent from the village. They consist of four rooms, five rooms, and six rooms exclusive of offices and outbuildings. The applicant for any of these cottages must satisfy the land board that he is a *bonâ-fide* worker and that he is not the owner directly or indirectly of any land in New Zealand. Where there are more applicants than houses the board shall determine by ballot. The tenant has to keep the place in good repair. The average rent will be about £2 5s. per month. The conditions for acquiring the freehold are as follows:—

> *Mode A.*—By payment in cash of the capital value of the dwelling (including the land) at any time not less than twenty-five years from the date of the lease. Rent during term of lease to be at the rate of 5 per cent. on the capital value.
>
> *Mode B.*—(*a*) By monthly payments over a period of thirty-two years, at the rate of 8 per cent. per annum on the capital value.
>
> (*b*) By monthly payments over a period of forty-one years, at the rate of 6½ per cent. per annum on the capital value.
>
> *Mode C.*—By monthly payments of rent at the rate of 5 per cent. per annum on the capital value of the dwelling, and taking out an insurance policy on the life of the applicant with the Government Insurance Commissioner for the amount of the capital value of the dwelling.

Attached to each house is a small garden. Settlements have been purchased by the Government near Auckland, Wellington, Christchurch, and Dunedin.

Hospital Abuse.

The Inspector-General of Hospitals (Dr. D. Macgregor) in his last report to Parliament draws attention to the misuse of some of the hospitals in the colony:—

> The chief difficulty that has arisen in connexion with the hospitals of the colony is the deliberate and determined attempt which has been made by the trustees of Northern Wairao Hospital to evade the law by abusing the ticket system. This I long ago failed to check, notably in the old Province of Westland. In the above district this has been pushed to the length of absurdity. Any person who pays £1 6s. is there entitled to the benefit of free medicines and attendance at his own house by the doctor for himself and his wife and children. If this benefit contributor, or any of his family, become an inmate of the hospital, he receives all the benefits thereof for 16s. a week. This means that the hospital is turned illegitimately into a benefit club for the neighbourhood—quite an intolerable state of things, demanding clear legislation on this and other points set forth in last year's Hospitals Bill. In other places this evil example is finding some imitators, and it must be checked.

This Northern Wairoa Hospital has been the cause of many complaints and much deliberation on the part of the various medical societies. It is to be hoped that the new Minister of Public Health will do something to mitigate this undoubted injustice to the ratepayers and the profession. Dr. Macgregor again points out the necessity for greater powers being given to the central authorities with respect to the spending of money. The hospitals here are maintained by rates, voluntary contributions, bequests, and the consolidated fund. The returns of 25 of the principal hospitals show:—

	Per cent.
Government	51·0
Rates	33·1
Voluntary contributions	14·5
Bequests	1·4

Does this not, as he comments, form an eloquent argument for greater State control!

Sept. 2nd.

Obituary.

HENRY WALTER SYERS, M.D. CANTAB., M.R.C.P. LOND.

Dr. Henry Walter Syers died on Oct. 10th in very sad circumstances. On Oct. 1st he sustained a poisoned wound of one of his fingers, probably while making a necropsy, and the resulting infection proved fatal in spite of all the care and attention of several medical friends. Dr. Syers was born at Kenilworth, Warwickshire, in October, 1852. In due course he entered at Gonville and Caius College, Cambridge, and graduated as B.A. (Natural Science Tripos) in 1875. His medical studies were pursued first in Birmingham and afterwards at the Westminster Hospital and in 1883 he both graduated as M.D. at Cambridge and was admitted a Member of the Royal College of Physicians of London. From 1885 to 1887 he was medical registrar and tutor at the Westminster Hospital, where his clinical teaching was so greatly appreciated by the students that they presented him with a testimonial. He was appointed on the staff of the Great Northern Central Hospital in 1888, shortly after the transference of the institution to Holloway. The hospital at that time contained only 64 beds, but the out-patient department was a large one, and for the next 17 years he laboured in that ever-increasing field. No vacancy occurred upon the senior staff until a year ago, when to his great satisfaction he became one of the physicians in charge of beds. He was not only most assiduous in his clinical work but in order to keep himself abreast of modern pathology he was much in the post-mortem room and his enthusiasm in this respect must be held to be the immediate cause of his untimely death.

Dr. Syers was an excellent linguist, knowing much Greek, Latin, French, Italian, German, Portuguese, and Spanish. He translated J. R. Morat's "Physiology of the Nervous System" and Laumonier's "New Methods of Treatment," which appeared in 1904. He also published in 1901 a treatise on the "Theory and Practice of Medicine" and was the author of many contributions to various medical journals. Some years ago he made a special study of spectroscopy in relation to medicine. In 1905 he was president of the North London Medico-Chirurgical Society and was re-elected this year. Archæology (especially Egyptology) was a favourite subject with him, and much of his leisure was spent in studying Egyptian languages, such as demotic, Coptic, and hieroglyphics. A skilled pianist, he did not admire Wagner but delighted in Mozart, Beethoven, Handel, and Chopin. His personal disposition board with the exception of the secretary, Dr. Charles A. Hodgetts, who will continue to act in that capacity. The present board is as follows, and the members are mostly trained in matters relating to public health and sanitation: Dr. Charles Sheard, medical health officer of Toronto and professor of infectious and contagious diseases in the University of Toronto; Dr. Milton Ira Beeman, Newburgh, Ontario, who has been township health officer for a number of years in his district; Dr. J. W. S. McCullough, Alliston; Dr. Charles R. Coughlin, Peterborough; and Dr. William J. Robinson and Dr. William R. Hall, Chatham, the two last having been health officers for a number of years.

Montreal General Hospital.

The Montreal General Hospital is erecting a new wing at a cost of $15,000. Recently 18,000 square feet of land were purchased for the purpose, and it is intended that the new wing shall contain the lighting, heating, and laundry plants. In addition extra accommodation will be provided for about 20 more nurses. During the quarter ending June 30th there were treated in the hospital 881 patients and there were 59 deaths, but as 28 of these died within three days of their admission the ordinary hospital death-rate for the quarter was 3·5 per cent. In the outdoor departments there were 10,893 consultations.

Analysis of Canned Meat.

The recent developments with regard to certain United States packing-houses made it incumbent on the laboratory of the Canadian Government at Ottawa to make a detailed analysis of certain of these products. This was recently done and the report of the chief analyst deals with the subject. A collection of canned meats as they are offered for sale in the Dominion of Canada was made last June and the collection made all over Canada included goods packed in Canada as well as goods put up by manufacturers in the United States. In all 322 samples were collected and their examination was proceeded with. Inspection was made on opening the tins as to whether the meats appeared to be fresh and destitute of any disagreeable odour and they were further tested as to whether there were any preservatives used in packing them. Only four samples out of the total were found to give evidence of decomposition—that is, 1·4 per cent. The preservatives sought for were salicylic, benzoic, sulphurous, and boric acids, but only the last named was detected and then only in a very small number of samples and in quantity not exceeding the limit fixed by the English Parliamentary Commission of 0·5 per cent. The chief analyst agrees with the State Board of Health of Massachusetts that in general the results are favourable to the manufacturers both in the west and in the east.

Typhoid Fever in the Toronto General Hospital.

In the annual report of the Toronto General Hospital for the year ending Sept. 30th, 1905, which has only just been sent out, there is a report of 110 cases of typhoid fever, which was compiled by the senior resident physician, Dr. E. C. Burson. The report embraces all the cases of typhoid fever admitted into the Toronto General Hospital from Jan. 1st to Dec. 31st, 1905. 80 per cent. of the cases were admitted from the city of Toronto, whilst the remainder came from outside points. By months the admissions were as follows: January, 2; February, none; March, 2; April, 4; May, 2; June, none; July, 2; August, 19; September, 26; October, 20; November, 14; and December, 9. 68 per cent. of the cases were admitted during the months of August, September, and October. The average duration of stay in the hospital was 31 days; the shortest was 12 days and the longest 91 days. 82 cases were males and 28 were females. 21 of the cases were from ten to 20 years of age; 51 cases were between 20 and 30; 24 cases between 30 and 40; 11 cases between 40 and 50; and 3 cases between 50 and 60. Rose spots were noted in 81 cases. The spleen was enlarged in 60 cases. The Widal reaction was positive in 76 per cent. of all cases tested before the seventh day of admission. In one case it developed for the first time on the fifteenth day and in another on the twenty-fourth day after admission. The diazo reaction was present in 52 per cent. of this series. Of the 110 patients nine died, a percentage of 8·2. Perforation of the bowel occurred in two cases; in both laparotomy was performed; both died. In one of these cases purgatives had been administered during the first eight days, death taking place on the sixteenth day; in the other for two days, death taking place eight days later. Dr. Burson presents these conclusions: 1. That typhoid fever is essentially an autumnal fever. Young persons and adolescents seem especially liable to the disease, and robust and well-developed individuals, in general, more so than the weak and those debilitated by disease. 2. As a rule, it starts insidiously with a general feeling of malaise, pains throughout the body, and loss of appetite. A distinct rigor is very rare, but chilly sensations at the onset are common. 3 The most important and constant guides for a diagnosis are the fever, rash, enlarged spleen, and Widal reaction. 4. Probably no one of the acute affections is so prolific in complications as typhoid fever. Of these, pneumonia, hæmorrhage from the bowels, and perforations are the most serious.

Toronto, Oct. 13th.

NEW ZEALAND.

(From our own Correspondent.)

The Adoption of Children Act.

There is now under discussion in the House of Representatives an amendment to the Adoption of Children Act. The suggested alteration, despoiled of legal phraseology, provides that it shall be illegal for anyone to accept money either at the time of adoption or later. The effect of this is, as the Minister of Justice explained, to do away with any monetary incentive to adopt children. In the course of the argument it was disclosed that a considerable number of "pakeha," or white children, are yearly adopted by Maori women. It was not suggested that the natives were unkind to their children by adoption but it was suggested that white children would be better under the care of the State than confided to the care of the natives. There can be no doubt as to the desirability of the proposed new law.

Overstudy.

Dr. King, medical officer to one of the principal mental asylums, has been conducting a very energetic campaign against overstudy in our secondary and higher schools. His views have been combated fiercely by some of the leading educationists. He pleads most earnestly for more play-time, adequate playgrounds, and less cram. There is no doubt that the strain is greater at the age of puberty, especially amongst girls, than it should be. The difficulty, however, will never be solved until some better way of inciting children to serious study can be found than competitive examination. In connexion with this matter the chief health officer (Dr. J. M. Mason) has, with the concurrence of the Minister of Public Health, suggested a scheme for the medical inspection of school children. At present, except in the high schools and colleges, no medical inspection takes place. He has suggested that an inspector should be appointed for each health district whose duty it will be to examine all children submitted to him by the teachers. The various district health officers will address the teachers in each large centre, pointing out to them how best they can recognise such ailments as eye strain, long sight, short sight, adenoids, deafness, imperfect teeth, and so on. The master will be required to keep a list of all scholars who, in his opinion, are below par in any physical sense. This list will be sent to the medical inspector who will examine the suspected ones and advise the parents as to what should be done. There are at present attending our board schools some 127,000 children, and to try to make a complete examination of them all would, because of the dispersion of our population, involve a very great expenditure. The education boards and the teachers have warmly approved the scheme which it is to be hoped will be in full working order before long. The appointment of five new officers will be necessary. It is proposed that they shall receive a salary of about £500 per annum each, half to be paid by the education boards and half by the health department.

Old-age Pensions.

The result of increasing the annual payment to the respectable worn-out citizens from £18 to £26 per annum has been, it would appear, an increased number of applicants last year. There were 11,770 persons in receipt of old-age pensions and the total sum expended was £199,081. This year 12,582 persons appear on the list at an average cost per head of £24 17*s*. This gives a total expenditure of £313,018.

Crusade against Quackery.

In 1904 a regulation was brought in requiring that all different occasions; but their admission to the second part is contingent on their having already satisfied the examiners in the first part. In the examination statutes and regulations of the University and in the resolutions and rules of the General Medical Council full information will be found regarding the conditions which candidates must fulfil before admission to the examination. The examination statutes also contain schedules of the subjects of examination and the current time-table.

PRESENTATION TO A MEDICAL PRACTITIONER.—Mr. Charles Porter, M.D. Edin., late assistant medical officer of health of Sheffield, and now assistant medical officer of health of Leeds, was recently the recipient of an illuminated address and gold watch and chain from 104 medical men practising in the city of Sheffield.

SOCIETY OF ANÆSTHETISTS.—The annual dinner of the above society was held on Oct. 19th at the Café Monico, the President, Dr. R. J. Probyn-Williams, being in the chair. Among the guests were Mr. Henry Morris, President of the Royal College of Surgeons of England, Dr. G. E. Herman, Mr. James Berry, and other representatives of medicine and surgery and kindred societies. After the loyal toasts had been duly honoured, Dr. Dudley W. Buxton proposed the toast of "The Guests," which was responded to by Mr. Morris. An enjoyable evening was spent and the society starts its session 1906–07 under very favourable auspices.

HIGH DEATH-RATES.—In normal seasons, writes British Consul in Ecuador, the health of the port of ayaquil may, *for a tropical city without* any proper inage, be considered as fairly good. The general death-e ranges, in ordinary periods, between 35 and 40 per 1000 r year. At present, however, owing to a peculiar and favourable rainy season, and to other as yet unknown ses, the town has been experiencing an unusually severe ath-rate, and it may not be an exaggeration to state that is has for some weeks been at the rate of 100 per 1000 per ar. Out of a population of 70,000 there have been as ny as 160 deaths in a *single* week (equivalent, if con-nued, to 8320 in a year, or 120 per 1000). A considerable ount of fever, somewhat like typhoid, has occurred roughout the country. There are infectious and pernicious vers, much malarial fever, and the *so-called* epidemic llow fever, all more or less prevalent throughout the strict. The Government and municipal authorities are ving attention to the carrying out of a convenient and tensive sewage scheme for the city which may help to duce the death-rate in the near future. In 1904 the total aths registered in Guayaquil were 2877, as against 3232 in 03. Of these deaths, 870 were entered as from fever, 190 which were declared as yellow fever. The death-rate ongst children is excessive, 1257 deaths out of a total of 77 being of children under five years of age. From 1878 the present time nearly every year has seen a continued d steady decline in the amount of rainfall. No exact atistics are obtainable, but there is little reason to doubt at the decline within the period cited is upwards of 30 per ent.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWARD, 41 and 43, Maddox-street, Bond-street, London, W.

The Queen's Poor: Life as They Find It in Town and Country. By M. Loane. New and Cheaper Edition. Price 3s. 6d.

BAILLIÈRE, J. B., ET FILS, 19, Rue Hautefeuille, Paris.

Nouveau Traité de Médecine et de Thérapeutique. Publié en Fascicules sous la Direction de MM. P. Brouardel et A. Gilbert. XI. Intoxications. Par P. Carnot, E. Lancereaux, Letulle, Wurtz, Professeurs agrégés à la Faculté de Médecine de Paris, Médecins des Hôpitaux. Prix, broché, Fr. 6; cartonné Fr. 7.50.

Traité d'Hygiène. Publié en Fascicules sous la *Direction de* MM. P. Brouardel et E. Mosny. IX. Hygiène Militaire. Par J. Rouget, Médecin-Major de 1re Classe, Professeur Agrégé au Val-de-Grace, et Ch. Dopter, Médecin-Major de 2e *Classe*, Professeur Agrégé au Val-de-Grace. Prix, broché, Fr. 7.50; cartonné, Fr. 9.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, London, W.C.

Lectures on Diseases of the Lungs. By James Alexander Lindsay, M.D., F.R.C.P. Lond., M.A., Professor of Medicine, Queen's College, Belfast; Physician to the Royal Victoria Hospital, Belfast. Second edition. Enlarged and re-written. Price 10s. 6d. net.

Manual of Chemistry. By W. Simon, Ph.D., M.D., Professor of Chemistry in the College of Physicians and Surgeons of Baltimore, and in the Baltimore College of Dental Surgery. Eighth edition, thoroughly revised. Price 15s. net.

The Sigmoidoscope. A Clinical Handbook on the Examination of the Rectum and Pelvic Colon. By P. Lockhart Mummery, B.C. Cantab., F.R.C.S. Eng., Hon. Surgeon to King Edward VII. Hospital for Officers; Assistant Surgeon to St. Mark's Hospital for Fistula and Other Diseases of the Rectum. Price 3s. 6d. net.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent Garden, London, W.C. (THACKER, SPINK, AND CO., Calcutta.)

Enteric Fever in India and in Other Tropical and Sub-Tropical Regions. A Study in Epidemiology and Military Hygiene. By Ernest Roberts, M.B., D.P.H., Major, Indian Medical Service, Formerly Deputy Sanitary Commissioner, North-West Provinces; lately Statistical Officer to the Government of India in the Medical and Sanitary Departments, and Officiating Secretary to the Sanitary Commissioner with the Government of India. Price 21s. net.

CLARKE, F. W. S., AND CO., LIMITED, Criterion Press, Leicester.

Artificial Limbs for Use after Amputations and Congenital Deficiencies. By F. Gustav Ernst, Orthopædic Mechanician to the National Orthopædic Hospital, the Surgical Aid Society, &c. Price not stated.

FUNK AND WAGNALLS COMPANY, New York and London.

The Health-Care of the Baby. A Handbook for Mothers and Nurses. By Louis Fischer, M.D., author of "Infant Feeding in Health and Disease"; "A Text-book on Diseases of Infancy and Childhood"; Attending Physician to the Willard Parker and Riverside Hospitals. Price 3s.

The Influence of the Mind on the Body. By Doctor Paul Dubois, Professor in the University of Berne, Author of "The Psychic Treatment of Nervous Diseases." Translated from the Fifth French Edition by L. B. Gallatin. Price 2s.

GOVERNMENT PRINTING OFFICE, Washington.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Second Series. Vol. XI. Mo-Nyström. Price not stated.

GREEN, WILLIAM, AND SONS, Edinburgh and London.

Medical Diagnosis. A Manual of Clinical Methods for Practitioners and Students. Fifth edition, greatly enlarged and revised to date. By J. J. Graham Brown, M.D., F.R.C.P.E., F.R.S.E., Assistant Physician, Royal Infirmary of Edinburgh; and W. T. Ritchie, M.D., F.R.C.P.E., F.R.S.E., Clinical Assistant Pathologist, Royal Infirmary of Edinburgh. Price 8s. net.

HEATH, D. C., AND CO., Boston, U.S.A.

Case Teaching in Medicine. A Series of Graduated Exercises in the Differential Diagnosis Prognosis and Treatment of Actual Cases of Disease. By Richard C. Cabot, A.B., M.D. Harvard, Instructor in Medicine in the Harvard Medical School and Physician to Out-patients at the Massachusetts General Hospital. Price not stated.

HENDERSON, W. C., AND SON, St. Andrews. (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., London.)

Incubation; or The Cure of Disease in Pagan Temples and Christian Churches. By Mary Hamilton, M.A., Carnegie Research Scholar. Price 5s. net.

HILTON AND CO., 102, College-street, Calcutta.

A Treatise on Materia Medica and Therapeutics, including Pharmacy, Dispensing, Pharmacology and *Administration* of Drugs. By Rakhaldas Ghosh, L.M.S. Cal. Univ., Lecturer on Materia Medica, Calcutta Medical School. Edited by C. P. Lukis, M.D., F.R.C.S., Lieut.-Colonel, Indian Medical Service; Honorary Surgeon to H.E. the Viceroy; Principal and Professor of Medicine, Medical College of Bengal; Dean *of* the Faculty of Medicine of the University of Calcutta. Third edition. Price Rs.5, *or* 7s. 6d.

LA CLINIQUE OPHTALMOLOGIQUE, 9, Rue Buffault, Paris.

Leçons de Thérapeutique Oculaire, basées sur les Découvertes les plus Récentes. Leçons faites à la Faculté de Médecine de Paris. (Cours libre.) Par le Dr. A. Darier, Ancien Président de la Société d'Ophtalmologie de Paris, Membre de la Société française d'Ophtalmologie. Prix pour la France, Fr. 12; pour l'Etranger, Fr. 12.50. Troisième édition. Complètement remaniée.

LEWIS, H. K., 136, Gower-street, London, W.C.

Refraction of the Eye, its Diagnosis and the Correction of its Errors. With a Chapter on the Use *of Prisms*. By A. Stanford Morton, M.B., F.R.C.S. Eng., Surgeon to the Moorfields *Ophthalmic Hospital*; Ophthalmic Surgeon to the Great Northern Central and the Italian Hospitals. Seventh edition. Price 3s. 6d.

The Röntgen Rays in the Diagnosis of Diseases of the Chest. By Hugh Walsham, M.A., M.D. Cantab., F.R.C.P., Chief Assistant in the Electrical Department *of* St. Bartholomew's Hospital; Senior Assistant Physician to the City of London Hospital for Diseases of the Chest; and G. Harrison Orton, M.A., M.D. Cantab., Assistant in the Electrical Department of St. Bartholomew's Hospital; Medical Officer in Charge of the X ray Department of the National Hospital for Diseases of the Heart and of the Cheyne Hospital for Sick Children. Price 6s. net.

LIBRAIRIE UNIVERSELLE, 33, Rue de Provence, Paris.

Le Malade et le Médecin. *Dr. Doyen. Price Fr.* 3.50.

LONGMANS, GREEN, AND CO., 39, Paternoster-row, London, E.C.

Five-Figure Mathematical Tables. For School and Laboratory Purposes. By A. du Pré Denning, M.Sc. Birm., B.Sc. Lond., Ph.D. Heid. Price 2s. net.

Helouan, an Egyptian Health Resort, and How to Reach It. By H. Overton Hobson, M.D. Edin., Egyptian Government Medical Director of the Baths, Helouan; Examiner in Medicine was that of an upright and honest man who spoke freely of what was in his mind. Dr. Syers was never married.

FREDERICK HURST CRADDOCK, M.R.C.S. ENG., L.S.A.

Mr. Frederick Hurst Craddock, medical superintendent of the Gloucestershire County Lunatic Asylums, Wotton and Barnwood, near Gloucester, was found dead in his bedroom on the morning of Oct. 14th, the cause of death being heart failure. He had not been feeling very well since the abnormal heat in July, and during his holidays, about a month ago, he had a serious cardiac attack on the river bank while angling in Monmouthshire. Mr. Craddock, who was 55 years of age, was a native of Nuneaton. He was formerly a scholar of Lincoln College, Oxford, and graduated as B.A. and M.A. in 1873 and 1893 respectively. Choosing medicine as a profession he entered as a student at St. Bartholomew's Hospital and became a Member of the Royal College of Surgeons of England and Licentiate of the Society of Apothecaries in 1877. For some time he was clinical assistant at St. Luke's Hospital and was subsequently appointed senior assistant medical officer and deputy medical superintendent of the Worcestershire County Asylum, a position which he held for several years. In the summer of 1882 he was appointed medical superintendent of the Gloucestershire County Asylum. By his death the county council has lost an able asylum administrator, the patients a skilful and genial medical officer, and the staff a considerate chief, and it is no mere figure of speech to say that the news of his sudden demise was received throughout the county with very great and real regret.

The funeral took place on Oct. 19th at Nuneaton; a memorial service was held at the asylum chapel on the previous day.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in October the following candidates passed in the subjects indicated:—

Surgery.—L. C. W. Brigstocke (Section II.), Oxford and St George's Hospital; C. F. W. Dunn, Middlesex Hospital; E. L. D. Gay (Section II.), Lausanne; and R. Spears (Sections I. and II.), University College Hospital.

Medicine.—C. C. Morrell (Section II.) and G. H. Rodolph (Sections I. and II.), London Hospital; G. M. Seagrove (Section II.), St. Bartholomew's Hospital; F. A. K. Stuart (Sections I. and II.), Cambridge and St. Mary's Hospital; and A. R. Wade (Section I.), St. Bartholomew's Hospital.

Forensic Medicine.—E. J. Crew, Guy's Hospital; and G. M. Seagrove, St. Bartholomew's Hospital.

Midwifery.—J. Jones, Manchester; and B. S. Matthews, Royal Free Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery.—C. F. W. Dunn, E. L. D. Gay, and G. M. Seagrove.

FOREIGN UNIVERSITY INTELLIGENCE.—*Budapest:* Dr. Franz Tangl has been appointed to the chair of General Pathology. Dr. Preisz has been appointed Professor of Bacteriology.—*Cracow:* Dr. Leo Marchlewski has been appointed Professor of Medical Chemistry.—*Florence:* Dr. Emilio Santi has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Halle:* Dr. Arthur Schulz has been appointed Extraordinary Professor of Forensic Medicine.—*Lemberg:* Dr. Josef Nussbaum has been appointed to the chair of Zoology and Comparative Anatomy.—*Pavia:* Dr. Torquato Legnani of Modena has been recognised as *privat docent* of Operative Medicine.—*Prague (German University):* Dr. Kretz of Vienna has declined the Professorship of Pathological Anatomy, vacated by Dr. Chiari. Dr. Gustav Doberauer has been recognised as *privat-docent* of Surgery.—*Rome:* Dr. Ugo Cerletti has been recognised as *privat-docent* of Mental Diseases.

UNIVERSITY OF CAMBRIDGE.—From returns supplied by the tutors it appears that the number of freshmen intending to study medicine who have entered the University this term is 122. Last year the number was 117 and the year before 89.—The Gedge prize has been awarded to Mr. P. P. Laidlaw, B.A., of St. John's College, for a memoir entitled "Some Observations on Blood Pigments."—Mr. J. J. Lister, F.R.S., of St. John's College, has been appointed an elector to the chair of zoology and comparative anatomy, in the place of the late Professor Weldon.—Dr. W. E. Dixon and Professor Stockman have been appointed examiners in pharmacology, and Mr. T. S. P. Strangeways and Professor Ritchie examiners in general pathology for the third M.B. examination.—Dr. W. N. Shaw, F.R.S., director of the Meteorological Office, has been elected an honorary Fellow of Emmanuel College.

UNIVERSITY OF LONDON.—PUBLICATION OF EXAMINATION PAPERS.—In and after September, 1906, examination papers will be published by the University as soon as possible after the several examinations. The papers for all the examinations of the session in agriculture and veterinary science will be published annually in August. Applications for examination papers should be addressed to the Financial Secretary, University of London, South Kensington, S.W.

LITERARY INTELLIGENCE.—A new edition of Professor W. Osler's delightful volume of essays, "Æquanimitas," has been issued by Mr. H. K. Lewis. This edition contains the three valedictory addresses which Professor Osler delivered before leaving America. One of these is the famous address entitled "The Fixed Period," in which Professor Osler's jesting allusion to a proposal that men over 60 years of age should be painlessly removed was taken *au grand sérieux* by the majority of the lay press and solemnly commented upon.—The Arabic translation of Galen's 'Ανατομικων 'Εγχειρησίων βιβλιον has recently been edited by Herr M. Simon from a very early ninth century manuscript, under the title of "Galen, Sieben Bücher Anatomie: Vol. I., Arabischer Text. Einleitung zum Sprachgebrauch. Glossar. Vol. II., Deutscher Text. Kommentar. Einleitung zur Anatomie des Galen. Sach- und Namen-register."

PLAGUE AT CHINDE.—Mr. Hewitt-Fletcher, H.M. Vice-Consul at Chinde, writes in an official report: "The bubonic plague appeared here towards the end of September, 1905, and lasted until November. The Portuguese authorities took energetic steps to restrict the area affected and they burned and rebuilt elsewhere some 300 native houses, besides erecting a camp where 500 natives were kept under observation (they having been exposed to infection). They also put up three buildings for the accommodation respectively of suspected cases, those actually suffering from plague, and those convalescent. The two or three European cases were treated in the European hospital and only one death occurred. The medical authorities thoroughly disinfected all cargo leaving Chinde for up river; the cargo for oversea was disinfected at Beira before leaving the lighters in which it was conveyed from Chinde to that port. The disinfectant employed for fumigating cargo was sulphur and for baggage formalin. Haffkine's serum and Yersin's serum were freely employed as a prophylactic and as a remedy; the former gave the more satisfactory results."

UNIVERSITY OF OXFORD.—In a Convocation held on Oct. 9th, the senior proctor communicated to the House a letter from the Right Honourable the Chancellor, Viscount Goschen, nominating Thomas Herbert Warren, M.A., President of Magdalen College, to be Vice-Chancellor for the ensuing year. The Vice-Chancellor having thereupon made the statutory declaration was admitted to office. The new Vice-Chancellor is well known as a strong supporter of the Natural Science School and the School of Medicine in the University.—The examinations for the degree of M.B., B.Ch., will commence on Thursday, Dec. 6th. Names must be sent in to the secretary to the Boards of Faculties on the proper forms and accompanied in each case by the required certificates not later than 10.30 A.M. on Tuesday, Nov. 20th.—The examination in Preventive Medicine for 1906 will commence on Tuesday, Nov. 20th. Names must be sent in not later than 10.30 A.M. on Tuesday, Oct. 30th, to the secretary to the Boards of Faculties, from whom all necessary information may be obtained. The examination, which is not confined to members of the University, consists of two parts. In the first of these candidates are required to exhibit a knowledge of chemistry and physics in the relations of these sciences to public health. In the second part of the examination the candidate is examined in the subjects of general hygiene and of pathology in its bearings on public health. In all the subjects the examination is partly practical. The first part of the examination occupies one day and the second part the three following days. Candidates may offer themselves for the two parts of the examination on the same occasion or on

MANCHESTER, ST. MARY'S HOSPITALS FOR WOMEN AND CHILDREN.—Medical Officer. Salary £60 per annum, with board and residence.

MEDICAL DEPARTMENT OF THE ROYAL NAVY.—Examination for not more than Six Commissions.

NEWCASTLE-ON-TYNE DISPENSARY.—Visiting Medical Assistant. Salary £160.

NOTTINGHAM, CITY ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with apartments, board, &c.

NOTTINGHAM GENERAL DISPENSARY, Hyson Green.—Senior Resident Surgeon, unmarried. Salary £180 per annum, with apartments, attendance light, &c.

PADDINGTON WORKHOUSE.—First Assistant to the Medical Superintendent and Assistant Medical Officer of the Workhouse, unmarried. Salary £120 per annum, rising to £150, with board, lodging, washing, and uniform.

QUEEN'S CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, N.W.—Resident Medical Officer for Out-patient Department for four months. Salary at rate of £60 per annum, with board, residence, and washing.

ROCHESTER, ST. BARTHOLOMEW'S HOSPITAL.—House Surgeon and House Physician. Salary in each case £110, with board and residence.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—Superintendent of the Laboratory.

ROYAL HALIFAX INFIRMARY.—Third House Surgeon, unmarried. Salary £80 per annum, with residence board, and washing.

ST. GEORGE'S UNION INFIRMARY, Fulham-road, West Brompton, S.W.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, and washing.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 a year, with board, lodging, and washing.

STOCKPORT, STEPPING HILL HOSPITAL.—Resident Assistant Medical Officer. Salary £130 per annum, rising to £150, with apartments, rations, &c.

SUNDERLAND INFIRMARY.—House Physician and Pathologist. Salary £80 per annum, with board, residence, and washing.

THROAT HOSPITAL, Golden-square, W.—Anæsthetist. Also Senior Clinical Assistant.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Honorary Surgeon.

WANDSWORTH UNION INFIRMARY, St. John's hill, Clapham Junction. Junior Assistant Medical Officer, unmarried. Salary at rate of £100 a year, with board, lodging, and washing.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—House Physician. Salary £100 per annum, with board, lodging, and laundry. Also Assistant House Surgeon. Salary at rate of £75 per annum, with board, lodging, and laundry.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Gateshead, in the county of Durham, at Histon, in the county of Cambridge, and at Balbriggan, in the county of Dublin.

Births, Marriages, and Deaths.

BIRTHS.

HENRY.—On Oct. 18th, at Tresco, Kennington-road, S.E., the wife of G. Nicol Henry, M.B., C.M., of a son.

MADDEN.—On the 8th inst., at Cairo, the wife of Frank Cole Madden, M.D., F.R.C.S., of a son.

WILSON.—At Denham House, Goldhawk-road, London, W., on the 16th inst., the wife of James Wilson, M.D., of a son.

MARRIAGES.

GRIFFITH–PROSSER.—On 18th Oct., at Merthyr Tydfil parish church, by the Rev. D. Lewis, Rector, John Griffith, M.R.C.S., L.R.C.P. (London), son of R. O. Griffith, Brynsiencyn, Anglesey (late of Port Dinorwic), to Annie Prosser, daughter of David Prosser, Thornwood, Treharris.

MITCHELL–STEPHEN.—On Oct. 20th, at St. Mary Abbots, Kensington, Alexander Mitchell, M.B., C.M., of Old Aberdeen, to Marion Louisa, daughter of the late Lessel Stephen, Advocate, Aberdeen.

ROGERS–BLAIR.—On Oct. 20th, at King's Weigh House Church, Norman Cumming Rogers, M.B., Ch.B., and Grace Brown (Daisie), youngest daughter of the late G. MacLellan Blair, J.P., Glasgow, and of Mrs. G. MacLellan Blair.

DEATHS.

CHEYNE.—On Oct. 17th, at Colby-road, Upper Norwood, William Romley Cheyne, M.R.C.S., aged 68 years.

CRADDOCK.—On Oct. 14th, at Wotton, Frederick Hurst Craddock, M.A., M.R.C.S., aged 55 years.

CRESWELL.—On the 19th inst., suddenly, of cerebral apoplexy, Joseph Nash Creswell, Solicitor, of Ednall House, Bromsgrove, only brother of John O. Creswell, Surgeon, of Barnsley House, Billericay, Essex.

DRUMMOND.—On October 20th, at his residence, Kinderheim, St. Anne's-on-Sea, Lancs, Edward Drummond, M.D. Edin., M.R.C.S. Eng., D.P.H. Camb. (formerly physician at Rome), in his 64th year.

MACLEAN.—On Oct. 19th, at Widcombe-crescent, Bath, John Lindsay Maclean, M.D., aged 75 years.

PITT.—On Oct. 21st, at Wellesbourne, near Warwick, Mary, wife of Richard Joseph Pitt, L.F.P.S.G., and L.S.A.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

FATALITIES IN SEWERS.

AT the Hackney coroner's court on Oct. 17th Dr. W. Wynn Westcott held an inquiry into the circumstances of the death of a man, aged 48 years, who was engaged in clearing the sewers of the Poplar borough council at Hackney Wick. It appeared that having removed the manhole he found that a lighted candle on being lowered was extinguished. About an hour later, without again testing the air in the sewer, he descended; his mate not hearing him at work, taking a rope, went down after him but being nearly overcome with the sewer gases he tied the rope round himself and asked to be pulled up. He reached the surface in an unconscious condition. A full hour elapsed before the dead body of the first man was recovered; he was found lying face downwards in over two feet of water, some of which he had swallowed. Artificial respiration did not restore him. It appeared from the medical evidence that the deceased, having been overcome, fainted, fell forward, and was drowned. Dr. Wynn Westcott was supported by the jury in expressing the opinion that sewermen should be carefully instructed as to the dangers of their occupation, the means of preventing fatalities such as the above, and the methods which should be adopted in resuscitating those so overpowered and suffocated. Thus they should never work single-handed and should always have a rope in readiness; manholes should be opened long before the sewerman descends and immediately precedent to the descent the atmosphere of the sewer should be tested with a lighted candle or otherwise: rules of first aid should from time to time be expounded to the men. In our opinion men subject to fits or suffering from affections of the lungs should be forbidden to undertake this class of work; it is said that bronchitis and gout are common among sewermen. In addition to the gases of putrefaction generated wherever sewage is stagnant considerable volumes of irritant gases enter sewers from the routine drain-testing of the sanitary inspector. It would be well if the local medical officer of health gave instructions to the sewermen and so periodically brought to their notice the danger which is constantly present, but to which, as in most similar cases, the workmen become indifferent.

PRACTICE IN THE ARGENTINE.

To the Editors of THE LANCET.

SIRS,—Some weeks ago you were good enough to refer me to the Consul-General of the Argentine Republic for information as to the prospects of English medical men in that country. I cannot say that I obtained much information. I have since, however, had the following particulars sent me by an English medical man long resident in Buenos Ayres and one of the leading men there. I quote it without vouching for its accuracy and for publication if you wish.

I am, Sirs, yours faithfully,

Oct. 15th, 1906. X.

[COPY.]

Sept. 14th, 1906.

DEAR ——,—It is with regret that I cannot give you a glowing account of the prospects of an English doctor in this country.

Appointments open to Englishmen there are very few and far between. Here we have no locum tenencies, no public health appointments for foreigners, and there are no assistantships to be got. In this country we have all to paddle our own canoe. Still any really capable man with a knowledge of Spanish, after doing the necessary examinations to make valid his diploma, can do well and many have done well. Here we have a course of six years' medical college; a foreigner if well prepared might get through the necessary examinations in three years (in the language of the country).

The studies are difficult and of a high standard.

Yours sincerely.

A QUESTION OF HOSPITAL ETHICS.

To the Editors of THE LANCET.

SIRS,—Some of your readers may like to express an opinion on the following proposal:—A is a member of the honorary staff of a hospital where there is no medical school. A is also the superintendent of the electrical and x ray department of this hospital and is an expert in the use of x ray and electrical treatment. In this department some patients who can afford to pay a small fee are treated as well as those unable to pay, and a certain amount of income is earned for the hospital thereby. A wishes to hold classes of instruction at the hospital for medical men in x ray and electrical work, using the hospital apparatus for such classes, and proposes that after deducting all expenses incurred by the hospital in connexion with the classes, the balance of the fees received shall go to him.

An expression of opinion is invited on the ethics of this proposal: 1. Assuming that the patients of the hospital are used for illustrating and demonstrating. 2. Assuming that the patients are not used for illustrating and demonstrating. 3. Should the fees go to the hospital?

I am, Sirs, yours faithfully,

QUERY.

Egyptian Government School of Medicine, Cairo. Price 2s. 6d. net.

Maloine, A., 25-27, Rue de l'École-de-Médecine, Paris.

Traité des Maladies du Nez. Par le Docteur A. Ménier, Ex-Interne des Hôpitaux de Paris, Ancien Chef Adjt de Clinique Chirurgicale à l'Hôtel Dieu. Introduction de M. le Professeur S. Duplay. Préface de M. le Docteur A. Castex. *Price Fr.12.*

Merck, E., Darmstadt; and 16, Jewry-street, London, E.C.

E. Merck's Annual Reports. Report on the Advancements *of Pharmaceutical* Chemistry and Therapeutics. Volume XIX. 1905. Price not stated.

Nutt, David, 57-59, Long Acre, London, W.C.

My Friend Poppity. By Augusta Thorburn. Illustrated by Alice B. Woodward. *Price 2s. 6d.*

Rebman Company, 1123, Broadway, New York. (*Rebman, Limited*, 129, Shaftesbury-avenue, London, W.C.)

Atlas of Typical Operations in Surgery. By Dr. Ph. Bockenheimer and Dr. Fritz Frohse. Sixty Illustrations from Water Colours by Franz Frohse (Artist), Berlin. Adapted English Version by J. Howell Evans, M.A., M.B., M.Ch. Oxon., F.R.C.S. Eng., Demonstrator of Operative Surgery at St. George's Hospital, London. *Price not stated.*

Atlas of Applied (Topographical) Human Anatomy. For Students *and Practitioners. By Dr. Karl* von Bardeleben and *Prof.* Dr. Heinr. Haeckel, in Collaboration with Dr. Fritz Frohse and Professor Dr. Theodore Ziehen. Only Authorised English Adaptation from the Third German *Edition. By J. Howell* Evans, M.A., M.B., M.Ch. Oxon., F.R.C.S. Eng., late Senior *Demonstrator of Human Anatomy at St. George's Hospital,* London; Demonstrator of Operative Surgery, St. George's *Hospital, London. Price not stated.*

Reid, Andrew, and Co., *Limited, London and Newcastle-upon-*Tyne.

Armstrong College, Newcastle-upon-Tyne. (In the University of Durham.) Calendar. Session 1906-1907. Price 1*s.*; post free, 1*s.* 4d.

Steinheil, Georges, 2, Rue Casimir-Delavigne, Paris.

Travaux de *Chirurgie Anatomo-Clinique Par Henri Hartmann,* Professeur Agrégé à la Faculté de Médecine, Chirurgien de l'Hôpital *Lariboisière. Avec la Collaboration de P. Lecène* et J. Okinczyc, Anciens Internes Lauréats des Hôpitaux (Médailles d'Or). Prosecteurs à la Faculté. Troisième Série. Chirurgie de l'Intestin. Price Fr. 16.

Taylor and Francis, Red Lion-court, Fleet-street, London, E.C.

University of London. University College. Calendar. Session MDCCCCVI-MDCCCCVII. *Price not stated.*

University Correspondence *College*, 32, *Red Lion-square*, Holborn, London, W.C. (Editorial Offices, Burlington House, Cambridge.)

The London University Guide. 1907. *Containing the Regulations* for Examinations to be held in 1907 and 1908. Gratis. University Correspondence College. Matriculation Directory. No. XLIV., September, 1906. With Articles *on Text-books. Price 1s. net.*

University *of London*, South Kensington, London, S.W.

The Calendar for the Year 1906-1907. Vol. I. (History, Statutes, Officers, Examiners, &c.), price 5s net. Vol. II. (Curricula, &c., for Internal Students), price 5s. net. Vol. III. (For External Students), price 2s. 6d. net.

Unwin, T. Fisher, 1, Adelphi-terrace, London, W.C.

The Iron Gates. By Annie E. Holdsworth (Mrs. Lee-Hamilton), Author of "Joanna Traill, Spinster," "The Years that the Locust hath Eaten," &c. Price 6s.

W. B. Saunders Company, London and Philadelphia.

The Illustrated Medical Dictionary By W. A. Newman Dorland, A.M., M.D., Assistant Obstetrician to the University of Pennsylvania *Hospital; Editor of the American* Pocket Medical Dictionary; Fellow of American Academy of Medicine. Fourth edition, revised and enlarged. *Price, 19s. net.;* with thumb index, 21s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

Cunningham, H. H. B., M.D., F.R.C.S. Irel., M.R.C.S., has been appointed Ophthalmic Surgeon to the Ulster Hospital for Women and Children, Belfast.

Curtis, H. J., B.S., M.D. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Metropolitan Hospital, Kingsland-road, N.E., and Clinical Assistant to the Throat and Ear Departments of the London Hospital.

Farncombe, Edgar Leonard, M.B., B.Ch. *Oxon.*, has been appointed Deputy Medical Officer for the Chudleigh District by the Newton Abbot Board of Guardians.

Fleming, Robert James, M.B. Irel., has been appointed Medical Officer for the Central District of the Devonport *Union.*

Jacobsen, G. O., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Arnesby District of the county *of* Leicester.

Kennedy, J. M. P., L.R.C.S. Irel., L.K.Q.C.P. Irel., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Tullamore District of King's County.

Kensington, Miss E. Gladys, M.B., B.S. Lond., has been appointed House Surgeon to the Royal Free Hospital.

Klumpp, Ernest George, M.B., B.S. Durh., has been appointed *Medical Officer of Health for the* Cricklade and Wootton Bassett (Wiltshire) Rural District Council.

Latham, Henry, M.B. Edin., C.M., B.Sc. (Public Health), has been appointed Physician to the Peterborough Infirmary.

Ledingham, Alex., M.D., D.P.H. Aberd., has been appointed Medical *Officer of Health of the County of Banff.*

McCaskie, H. B., M.B. Cantab., M.R.C.S., L.R.C.P. Lond., has been *appointed Clinical* Assistant to the Chelsea Hospital for Women.

Mence, W. C., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Perranporth District of the county of Cornwall.

Ross, J. Murray, M.B., B.S. Durh., has been appointed Clinical Assistant *to the Chelsea Hospital for Women.*

Scott, Graham, M.R.C.S., L.R.C.P. Lond., has been re-appointed *Anæsthetist to the* Children's Hospital, Great Ormond-street, and to the Royal Dental and Central London Throat Hospitals.

Walters, H. P., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Chudleigh District by the Newton Abbot (Devon) Board of Guardians.

Wear, Algernon, M.D., B.S. *Durh.*, has been appointed Honorary Medical Officer in charge of medical cases at the Southern Branch *of the Leeds Public* Dispensary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

Army Medical Service.—Examination for not less than 30 Com*missions.*

Barnsley, Beckett Hospital.—House Surgeon. Salary £100.

Barnstaple, North Devon Infirmary. House Surgeon. Salary £100 per annum, with board, residence, and washing.

Belgrave Hospital for Children, Clapham-road, S.W.—Assistant Physician. Also Senior and Junior Resident Medical Officers the former for six months and the latter for seven months. Hono*rarium at rate of £20 and £10 a year respectively*, with board and lodging.

Birmingham and Midland Ear and Throat Hospital, Edmund-street.—House Surgeon. Salary at rate of £70 per annum.

Birmingham, Aston Union Workhouse and Cottage Homes, Gravelly Hill.—Assistant Medical Officer. Salary £140 per annum, with apartments, rations, and washing.

Birkenhead Borough Hospital.—Junior Resident House Surgeon. Salary £80 and fees.

Bodmin, Cornwall County Asylum.—Second Assistant Medical Officer, unmarried. Salary £150 per annum, increasing to £180, with board, *apartments, washing,* &c.

Bootle Workhouse, Cumberland.—Medical Officer. Salary £30 a year and fees.

Bradford Royal Infirmary.—*House Physician. Also* House Surgeon, unmarried. Salary in each case £100 per annum, with board and residence.

Buxton, Devonshire Hospital.—Assistant House Surgeon for six months. Salary at rate of £70 per annum, with apartments, board, and laundry.

Cancer Hospital, Fulham-road, S.W.—Surgical Registrar. Honorarium £26 5s per annum.

Cheddleton, Leek, *Staffordshire County Asylum.—Junior* Assistant Medical Officer. Salary £150, *rising to* £200, with board, quarters, and washing.

Clayton Hospital and Wakefield General Dispensary.—Senior House Surgeon, unmarried. Salary £120 per annum, with board, lodging, and washing.

Coventry and Warwickshire Hospital.—Senior House Surgeon. Salary £100 per annum, with rooms, board, washing, and attendance. Also Junior House Surgeon for six months. Salary £60 per annum, with rooms, board, washing, and attendance. Also Honorary Ophthalmic Surgeon.

Eccles and Patricroft Hospital.—*House* Surgeon, unmarried. Salary £70 per year, with board, residence, and washing.

Enniskillen, Fermanagh County *Hospital*.—House Surgeon. Salary £52 per annum.

Evelina Hospital for Sick Children, Southwark.—House Physician and House Surgeon. Salary £80 respectively, with board, residence, and washing. Also Assistant House Surgeon. Salary £70, with board, residence, and washing.

Grimsby, County Borough of.—Medical Officer of Health. Salary £500 per annum.

Guy's Hospital.—Lecturer on Hygiene and Public Health.

Hospital for Consumption and Diseases of the Chest, Brompton.—Assistant Physician.

Hospital for Sick Children, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

Hull Royal Infirmary.—Casualty House Surgeon. Salary £50, with board and *lodging.*

King's College, London.—Demonstrator of Physiology. Salary £75.

Lanark, Middle Ward *Isolation* Hospital.—*Resident Physician.* Salary £140 per annum, with board, &c.

Leeds Public Dispensary.—*Honorary* Pathologist. Also Honorary *Dentist.*

Lincoln County Hospital. — Senior *House* Surgeon, unmarried. *Salary* £125 per annum, with board, lodging, and washing.

Macclesfield, Parkside Asylum.—Junior Assistant *Medical* Officer, *unmarried. Salary* £140, rising to £160, with apartments, board, and washing.

Maidstone, *West Kent* General Hospital.—Assistant House Surgeon and Anæsthetist, unmarried. Salary £60, with *board,* residence, and *washing.*

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Sir D. Duckworth: Medicine. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Throat and Ear. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

TUESDAY (30th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Diseases of the Throat, Nose, and Ear. 2.30 P.M.: X Rays. Operations. Diseases of the Skin. 5 P.M.: Lecture:—Bilharzial Disease.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. W. Ewart: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. C. Mercier: Certifiability.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. H. T. Hewlett: Medicine. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Sir W. Gowers.

CHARING CROSS HOSPITAL.—4 P.M.: Mr. Wallis: Demonstration (Surgical). (Post-Graduate Course.)

CENTRAL LONDON OPHTHALMIC HOSPITAL (Gray's Inn-road, W.C.).—5 P.M.: Mr. Wells and Mr. Maclehose: Classes of Instruction in the Use of the Ophthalmoscope, with Demonstrations of Cases.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M.: Lecture-Demonstration:—Mr. A. de Prenderville: On the Administration of Anæsthetics.

WEDNESDAY (31st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. Diseases of Children. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. 5 P.M.: Lecture:—Practical Medicine.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. P. Paton: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. G. A. Sutherland: The Treatment of Rickets.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. Wells: Medicine. 3.15 P.M.: Mr. M. Robson: Surgery. 4 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M.: Demonstration:—Mr. C. Nourse: Larynx.

THURSDAY (1st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Diseases of the Eye. 5 P.M.: Lecture:—Practical Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M.: Lecture:—Dr. C. O. Hawthorne: The Field of Vision in Health and Disease.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. G. Rankin: Medicine. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

CHARING CROSS HOSPITAL.—4 P.M.: Demonstration:—Dr. I. Bruce: (Electrical). (Post-Graduate Course.)

CENTRAL LONDON OPHTHALMIC HOSPITAL (Gray's Inn-road, W.C.).—8 P.M.: Lecture Demonstration:—Dr. C. O. Hawthorne: Medical Ophthalmology.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M.: Chesterfield Lecture:—Dr. M. Dockrell: Seborrhœa and Psoriasis dealt with as Stages of the same Dermatitis in Symptoms, Diagnosis, and Treatment.

WEST END HOSPITAL FOR NERVOUS DISEASES (Welbeck-street, W.).—5 P.M.: Lecture:—Dr. H. Campbell: Demonstration of Cases.

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M.: Lecture:—Dr. Bell: The Diagnosis and Treatment of Ectopic Gestation.

FRIDAY (2nd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Diseases of the Throat, Nose, and Ear. 2.30 P.M.: X Rays. Operations. Diseases of the Skin. 5 P.M.: Lecture:—Some Aspects of the Treatment of Surgery.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. H. Tilley. Clinique. (Throat.)

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. 2.30 P.M.: Dr. R. Bradford: Medicine. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon. Skin.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture.—Dr. J. Taylor: Ophthalmoplegia in Nervous Diseases.

SATURDAY (3rd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

EDITORIAL NOTICES.

It is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

TO SUBSCRIBERS.

WILL Subscribers please note that only those subscriptions which are sent direct to the Proprietors of THE LANCET at their Offices, 423, Strand, London, W.C., are dealt with by them? Subscriptions paid to London or to local newsagents (with none of whom have the Proprietors any connexion whatever) do not reach THE LANCET Offices, and consequently inquiries concerning missing copies, &c., should be sent to the Agent to whom the subscription is paid, and *not* to THE LANCET Offices.

Subscribers, by sending their subscriptions direct to THE LANCET Offices, will insure regularity in the despatch of their Journals and an earlier delivery than the majority of Agents are able to effect.

The rates of subscriptions, post free, either from THE LANCET Offices or from Agents, are:—

FOR THE UNITED KINGDOM.				TO THE COLONIES AND ABROAD.			
One Year	£1	12	6	One Year	£1	14	8
Six Months	0	16	3	Six Months	0	17	4
Three Months	0	8	2	Three Months	0	8	8

Subscriptions (which may commence at any time) are payable in advance. Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Offices, 423, Strand, London, W.C.

SUBSCRIBERS ABROAD ARE PARTICULARLY REQUESTED TO NOTE THE RATES OF SUBSCRIPTIONS GIVEN ABOVE. It has come to the knowledge of the Manager that in some cases higher rates are being charged, on the plea that the heavy weight of THE LANCET necessitates additional postage above the ordinary rate allowed for in the terms of subscriptions. Any demand for increased rates, on this or on any other ground, should be resisted. The Proprietors of THE LANCET have for many years paid, and continue to pay, the whole of the heavy cost of postage on overweight foreign issues; and Agents are authorised to collect, and generally do so collect, from the Proprietors the cost of such extra postage.

The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 25th, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 19	29·70	W.	...	89	57	45	45	47	Cloudy
" 20	29·89	S.W.	...	90	59	45	46	47	Fine
" 21	29·92	S.	...	84	66	47	57	60	Cloudy
" 22	29·90	S.W.	...	81	63	54	59	61	Fine
" 23	30·02	W.	0·02	75	64	57	56	53	Cloudy
" 24	30·12	S.W.	...	74	63	54	55	57	Cloudy
" 25	30·35	N.N.W.	...	84	55	47	47	49	Fine

During the week marked copies of the following newspapers have been received:—*Bradford Daily Telegraph, Bradford Weekly Telegraph, St. Louis Medical Review (U.S.A.), Sussex Daily News, Liverpool Daily Post, Surrey Advertiser, Westminster Gazette, Yorkshire Post, Army and Navy Gazette, Morning Post, Daily Chronicle, Standard, Birmingham Weekly Post, Sheffield Telegraph, Yorkshire Observer, Newcastle Chronicle, Manchester Guardian, South African Record, &c.*

A QUESTION OF FEES.

To the Editors of THE LANCET.

SIRS,—A was in attendance on a lady who was suffering from cardiac dropsy. The case was a very trying one, as the patient was heavy to lift. As a result, one of the nurses had to be sent home on account of illness (pain in the left side from moveable kidney). A asked the lady who was staying in the house and who was supposed to be in authority and a relative of the patient whether he (A) should attend the nurse at her home (some distance off) or should the nurse call in her own doctor. The lady replied that she was quite sure the patient would wish that everything possible should be done for the nurse and that A should attend her, which A did. During this prolonged attendance two other nurses got laid up through the heavy lifting (one vomited blood, the other through fatigue) and A was requested by the lady to attend them also. The patient was not in either of the cases asked, as both the lady and A considered her condition too serious. The patient died and on A sending in his account (which was a large one) the executors declined to pay for the attendance on the nurses. Would A be justified in demanding his fees in this case?

I am, Sirs, yours faithfully,

Oct. 21st, 1906. R. M.

*** *The liability rests entirely on the question of the authority of the lady friend to give the direction. This can only be dealt with by careful inquiry to be made by the legal adviser of our correspondent. If the lady can be proved to be the agent of the patient well and good. If not our correspondent can only claim against the nurses.*—ED. L.

REPORT ON THE ADVANCEMENTS OF PHARMACEUTICAL CHEMISTRY AND THERAPEUTICS.

UNDER the above heading a copy of Vol. XIX. of the complete series of E. Merck's annual reports has reached us from the London office, London House, 16, Jewry-street, E.C. We have on previous occasions remarked the excellence and value of former numbers, and the present volume is equally deserving of this encomium. This series of reports is, in fact, a very valuable channel of information on recent pharmacology and therapeutics to the practitioner, who can possess himself of a copy gratis by applying to the above address.

A TWO-WAY PERITONEAL IRRIGATOR.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of August 11th Mr. H. M. W. Gray has described "a two-way peritoneal irrigator." Probably many similar devices have been recorded. In the *Medical Annual* of 1902, also in the *British Medical Journal* of Sept. 24th, 1904, p. 760, *is an account of an* instrument for a similar purpose *which I devised* under the name of "an evacuator for removal of fluids from cavities."

My instrument terminates in a metal spherical bulb in which are many perforations. This smooth bulb must be much easier to manipulate, especially while being moved from side to side within the abdomen, than the egg-whisk extremity of Mr. Gray's instrument, into which, as Mr. Gray admits, intestine or omentum may be drawn by suction. In my instrument the fluid enters the bulb through the perforations and is sucked up through the tube *which reaches to the* bottom of the interior of the bulb, the end *of this tube lying in the* pool of fluid at the bottom of the bulb.

A second tube connects the cavity of the bulb with the outer air, thereby tending to obviate a negative pressure within the bulb, which might lead to the sucking into the bulb of tags of omentum. The contents of the bulb are evacuated by means of a reversed enema syringe attached to the first tube. The evacuator can also be used as the nozzle of an irrigator. In practice the instrument works well, as, for instance, in a large abdominal abscess, a pint of pus being evacuated in a few minutes.

I am, Sirs, yours faithfully,

C. HAMILTON WHITEFORD.

Plymouth, Oct. 22nd, 1906.

STAMMERING.

To the Editors of THE LANCET.

SIRS,—Would you give me information on what is good in the literature of *stammering* and its treatment?

I am, Sirs, yours faithfully,

INEFFABLE.

*** *If our correspondent will refer to a paper, "Stammering and Its Treatment," by Dr. E. Worthington, which appeared in* THE LANCET of Sept. 22nd, p. 789, he will find mention made of many books and papers dealing with the subject. He might also consult a lecture by Dr. W. S. Colman on "Stuttering," which was published in THE LANCET of July 14th, p. 70.—ED. L.

◆

Aitchess.—In answer to our correspondent's query marked A, the general rule is that persons brought to a *hospital* dead are not reckoned as patients of the hospital *and the house* surgeon can claim a fee for giving *evidence* and *for* making a post-mortem examination, provided *that such post-mortem* examination is ordered by the coroner. With regard to question B, the general rule as to the taking of fees by a locum-tenent is that all fees received on behalf of his principal by a locum-tenent belong to the principal, but in many cases the matter is settled in one way *or the other* by a special arrangement between the medical man and his *locum-tenent.*

E. L.—There has been no correspondence upon the subject. The depilatory in question, which is either barium or calcium sulphide, has, of course, no effect upon the hair follicles and simply removes the hair outside the skin. With the precautions which we mentioned before it is quite suitable for the purpose stated by our correspondent, but its effects are not lasting.

M.R.C.S., L.R.C.P.—Our correspondent, who writes about the status of the medical profession, has omitted to furnish us with his name and address. Will he kindly repair the omission?

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY *(29th).—London (2 P.M.), St. Bartholomew's* (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), *West London* (2.30 P.M.), *London* Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond street (3 P.M.).

TUESDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (31st).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), *National Orthopædic* (10 A.M.), *St. Peter's* (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), *Guy's* (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (1st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. *George's* (1 P.M.), *London* (2 P.M.), *King's College* (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. *Thomas's* (3.30 P.M.), *Guy's* (1.30 P.M.), *Middlesex* (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London *Throat* (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), *City Orthopædic* (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (3rd).—*Royal Free* (9 A.M.), *London* (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), *Children, Gt. Ormond-street* (9.30 A.M.).

At the *Royal Eye Hospital* (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY (30th).—THERAPEUTICAL SOCIETY (Apothecaries' Hall, Blackfriars, E.C.).—4.30 P.M.: Election of Officers. *Papers:*—Mr. H. W. Gadd: Some Further Researches upon the Active Principles of Viola Odorata.—Dr. W. A. Potts: The Therapeutical *Uses of* Preparations of Viola Odorata.

WEDNESDAY (31st).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—5.30 P.M.: General Meeting to Discuss the Report of the Delegates concerning the Proposed Amalgamation of *Medical Societies.* 6 P.M.: *Ordinary* Meeting. Address:—Mr. H. Shirley-Jones (Droitwich) (*President*): The Art of Medicine in Ancient Egypt.

THURSDAY (1st).—NORTH-EAST LONDON *CLINICAL SOCIETY* (Tottenham Hospital, N.).—4 P.M.: Clinical Cases.

NEUROLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos street, Cavendish-square, W.).—9 P.M.: Address:—Sir Thomas Barlow, Bart.: Remarks on Some of the Nervous Complications of Specific Fevers.

FRIDAY (2nd).—WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich road, S.E.).—8.45 P.M.: Paper:—Dr. A. E. Giles: Some Observations on Uterine Fibroids.

SOCIETY OF ANÆSTHETISTS (20, *Hanover-square*, W.).—Paper:—Dr. Silk: *Anæsthesia in Abnormal* and Constrained Positions.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—Clinical Meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &C.

MONDAY (29th).—POST-GRADUATE COLLEGE (West London Hospital, *Hammersmith road*, W.).—12 noon: Pathological Demonstration. 2 P.M.: Medical and Surgical Clinics. 2.30 P.M.: X Rays. Operations. Diseases of the Eye. *5 P.M.: Lecture:*—Clinical Cases.

MEDICAL GRADUATES' *COLLEGE* AND POLYCLINIC (22, Chenies street, W.C.).—4 P.M.: Dr. W. Fox: Clinique. (Skin.) 5.15 P.M.: *Lecture:*—Dr. P. J. McCann: *The Diagnosis of Pregnancy.*

The Purvis Oration

ON

THE TREATMENT OF GENERAL PERITONITIS.

Delivered before the West Kent Medico-Chirurgical Society on Dec. 7th, 1906,

BY A. W. MAYO ROBSON, D.Sc. LEEDS. F.R.C.S. ENG.,

SENIOR VICE-PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MR. PRESIDENT AND GENTLEMAN,—To be invited by the council of the West Kent Medico-Chirurgical Society to deliver the Purvis oration, an address delivered annually to perpetuate the memory of Dr. Prior Purvis, who founded the Society and was for 50 years its honorary treasurer, and who, I am glad to say, is still living at the advanced age of 94 years, is, I feel, a great honour. At the same time I cannot hide from myself the fact that the distinction is tempered with a sense of responsibility, not only in the selection of a subject, which I was kindly informed would be more acceptable if it was practical and useful, but also in the fact that I have to follow in the wake of those who have brought to their task a combination of erudition and literary merit difficult to emulate.

There can hardly be at the present time any surgical question of more vital interest both to the profession and the public, and about which which there have been expressed so many differences of opinion, than that of the treatment of spreading and general peritonitis. The scientific treatment of localised peritonitis due to circumscribed infection has in most cases been definitely decided on general surgical principles, but the treatment of the spreading and of the diffuse forms varies remarkably in the hands of different surgeons, although from the frequency of acute peritonitis from various causes the experience from which to draw conclusions is very great. Some individual surgeons, as Ochsner and Murphy, seem to have arrived at such definite conclusions that their practice is well defined, yet, as we shall see, many of these conclusions are apparently diametrically opposed to one another.

In order that we may be quite clear as to what is meant by general peritonitis, I had better state clearly that I mean a diffuse peritonitis involving the whole cavity of the peritoneum usually due to a perforation of the stomach, duodenum, appendix, or intestine into the free peritoneal cavity, not limited by adhesions; by a spreading peritonitis I mean one in which there are no lymph barriers but in which the peritonitis has not yet involved the whole cavity of the peritoneum; for instance, in perforating duodenal ulcer where the right kidney pouch and perhaps the pelvis are involved, but not yet the upper abdomen, which, however, without treatment would be invaded in a few hours.

My experience, as does that of many of my hearers, carries me back to a time when diffuse or general suppurative peritonitis, which was treated as a disease irrespectively of the cause, practically nearly always meant death. Then the only treatment was the administration of opium, starvation, and the application of hot fomentations and poultices to the abdomen: yet occasionally a case recovered; and there can be no reasonable doubt from other evidence that some cases of diffuse peritoneal infection did recover long before surgical treatment was even thought of as being applicable to this condition, as shown by subsequent operations or necropsies, when universal peritoneal adhesions have been found and the scars of perforations of the hollow viscera or an obliterated appendix or signs of other definite causes have been discovered.

In my work on "Diseases of the Stomach" I have related the history of such cases where the account of the medical attendant and that of the patient rendered perforation of the stomach or of the duodenum probable, and the proof has been furnished by subsequent operation for further disabilities, showing the point of perforation and the adhesions caused by the former attack of peritonitis.

lised that the purely conservative treatment was entirely unsatisfactory the purgative treatment was introduced, with or without removal of the cause This was adopted in the hope that thorough emptying of the intestines and the production of watery discharges from the bowels by means of saline hydragogue cathartics would drain the fluid exuded into the peritoneum and by withdrawing water from the system cause absorption of that remaining. Opium in any form was rigidly prohibited at the beginning as it masked symptoms, and later because it stopped peristalsis and caused constipation and distension. I feel convinced that Lawson Tait did immense service to surgery when he pointed out the evils of morphine as a treatment for peritonitis and as generally employed after operations in the abdomen.

As a means of treating post-operative distension the method of giving saline aperients after operation was introduced and very successfully put into practice by the same surgeon, whose success in his special class of cases was doubtless due in a great measure to this treatment, for he prided himself on being neither aseptic nor antiseptic in his operative work, and relied on frequent doses of saline purgatives to prevent or subdue distension of the intestines, often the precursor of peritonitis. While this method was frequently of service in treating post-operative distension of the abdomen, which used to be frequently seen before rigid asepsis was the rule in abdominal surgery and then doubtless saved many lives, the improved technique of modern surgery, together with the avoidance of the use of strong antiseptics within the general cavity of the peritoneum, renders subsequent purgative treatment seldom necessary, for it can only be harmful in the presence of ileus due to a mechanical cause. Though useful as an adjunct after removal or repair of the cause, in acute general peritonitis from perforation of a hollow viscus or as a primary method of treatment in acute appendicitis it can only be disastrous. As a survival of the old idea that a clearing out of the bowels is advisable at the beginning of any disease, it is a matter of every-day experience, both in hospital and private practice, that nearly all cases of appendicitis, whether perforative or not, have had purgatives administered, often by the friends independently or by others who should know better, before being seen by the surgeon, a method of treatment which, though at times apparently beneficial, in many cases removes all chance of the disease remaining local; it is therefore in my opinion to be as heartily condemned as a routine practice as is the administration of morphine before a probable diagnosis has been made. According to Dr. C. A. Porter, "Roux of Lausanne has stated that since practitioners in his neighbourhood have entirely abandoned the administration of purgatives at the outset of appendicitis and have starved their patients 95 per cent. of the acute cases subside or become localised."

Next came operative treatment, at first limited to removal of the cause or repair of a perforation and simple drainage of the peritoneum with or without lavage, a method which was successful in a considerable proportion of cases and one to which with certain modifications we have returned with great advantage. So far back as 1883 I operated in this way on a case of general peritonitis due to a perforated gastric ulcer the third day after rupture but without success, I believe one of the first operations for perforated gastric ulcer done in this country. In the late "eighties" and the early "nineties" I had the opportunity of testing the treatment in further cases of perforated gastric ulcer, in general peritonitis from perforating appendicitis and from other causes, with more or less success, and in 1892 I reported cases of general suppurative peritonitis treated successfully by lavage and drainage. In 1896 I reported in detail a series of cases of appendicitis associated with general peritonitis, in which the removal of the cause and drainage of the abdomen were successful in saving life in five out of six cases (83·3 per cent. recoveries) occurring in my practice in that year.[1] My paper, which was written with the idea of combating the fatalistic impression of the almost certain lethal results of general peritonitis, did not attract the attention that I then thought, and still think, it deserved. The cases were as follows.

CASE 1. *Appendicitis; accouchement; general peritonitis; operation; recovery.*—On Jan. 3rd, 1896, I received a telegram from Dr. —— of Huddersfield asking me to see a case of acute general peritonitis. On arrival I found the patient, Mrs. ——, aged 32 years, lying extremely ill, with an enormously distended abdomen from general peritonitis and a pulse of 161. She had been confined 36 hours previously. Labour

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[1] Brit. Med. Jour., December, 1896.

Communications, Letters, &c., have been received from—

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Letters, each with enclosure, are also acknowledged from—

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X.—X., Paignton.

Y.—Dr. E. H. Young, *Okehampton*.

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we have added escape of visceral contents and their wide distribution we have a desperate condition with which to deal. When such unfortunate conditions exist in a case of perforation of the posterior wall of the stomach it is utterly impossible to deal with or even reach the perforated part by means of an ordinary incision. Our only hope depends on heroic measures—namely, a large abdominal incision, rapid evisceration, and collapse of the distended bowel by means of one or more temporary enterotomies. Then after closing the perforation we require a special irrigating apparatus capable of discharging several gallons a minute without undue force; with it the abdomen can be thoroughly cleansed of all palpable foreign material quickly. The eviscerated bowels should be protected with moist sterile gauze, which should not be removed during the operation, but which should be kept moist and at the proper temperature by irrigation or by hot towels. The collapsed bowels are easily replaced and there is no tension when the abdominal wound is closed. But all has not been said yet in favour of this method. The relief of the tension of the distended intestinal wall restores the circulation in it, gives the muscular coat an opportunity to regain its tone, and prevents further migration of pathological germs from the intestinal canal to the inflamed peritoneal coat

By the method to which reference has just been made we can deal with many of the desperate cases, especially in the upper zone of the abdomen more quickly and with less injury to the delicate structures than by any other known way. More certainly is this true when, as is not uncommon, the situation of the primary cause is in doubt.

Thus it will be seen that in Dr. Howitt's hands an extensive operation with evisceration in some cases where such was necessary has yielded more than ordinarily good results, five deaths in 34 cases, but as many of his cases were clearly not so severe as to require the extensive operation with evisceration, it is difficult to estimate accurately the mortality of the extensive operation alone.

My friend, Dr. A. J. Ochsner, of Chicago, some years ago, finding the results of extensive operative treatment in diffuse or spreading peritonitis due to appendicitis so very unsatisfactory both in his own and in the practice of others, decided on a return to the old conservative treatment with certain important modifications, and the profession owes to him the scientific practice of the so-called conservative treatment of spreading or general peritonitis due to appendicitis. Ochsner's view is that intestinal peristalsis is the most important means by which infective material is spread from the original focus of disease. The movements of the intestines during peristalsis are due to attempts of the bowels to pass on their contents, and as these are excited by purgatives and increased by anything entering the stomach, all food or fluid, even water, by the mouth is stopped and purgatives are forbidden. Lavage of the stomach is carried out from time to time, not only to control nausea and vomiting, but also to keep the stomach empty and to clear away the material which is continually passing back into it from the upper bowel. In this way the intestines are not only kept quiet, but by regurgitation of their contents they are emptied of fermenting matters; thus distension, if beginning, will be arrested and if not already present will be unlikely to appear. Spontaneous vomiting, if persistent, it is well known is quite capable of keeping down distension by removing all fermentable material, as I saw in a case of internal hernia on which I operated some time ago in which the abdomen was quite flat, though a knuckle of small intestine had been strangulated for some days before I saw the patient and was indeed gangrenous at the time I operated. The treatment from above in Ochsner's hands is also supplemented by saline infusion and by the administration of saline fluid by the rectum, which serves the purpose of keeping the blood-vessels filled and of washing infective material out of the blood stream by the process of excretion. To keep up the strength nutrient enemata are given. While pursuing this conservative treatment in spreading or in general peritonitis due to appendicitis, with the idea of getting the disease localised, when operative treatment can be safely carried out, he believes in immediate operation in all cases of appendicitis when the patient is seen by the surgeon within 36 hours of the onset or when the symptoms and signs point to the disease being localised. The results of such treatment in a series of 460 cases of *acute* appendicitis were reported by Dr. Ochsner before the Tri-State Society on Oct. 17th, 1904. He operated at once on 57 per cent. and delayed operation in 43 per cent. He divides these cases into four groups as indicated in the accompanying table.

In Groups 1 and 2, taken together, the total mortality was only 1·6 per cent. and there was no death in the delayed cases. In Group 3, with peritonitis and abscess, immediate and delayed operation had equally good results = 2½ per cent. mortality. Group 4 is, for our present purpose, the most important class: of 33 cases, ten patients died; in seven, the patients were far advanced, did not get into a condition for operation, and died; in 26, after delay, the patients improved and were operated on with three deaths; total mortality, 30 per cent.

If we compare these results of the modern conservative treatment of diffuse peritonitis due to appendicitis with the results of the extensive operation involving manipulation of the abdominal contents or evisceration, we cannot but pronounce in favour of Ochsner's treatment, as carried out by himself, which is, moreover, undoubtedly the best treatment in the absence of the possibility of skilled surgery, if it can be carried out thoroughly in every detail as advocated and practised by its author. If, however, we compare the results of *delay*, even in Ochsner's hands in this class of cases, with those of the less severe operation described in 1896 in the paper referred to, or with the local operation described and advocated by Dr. Murphy of Chicago, I think we shall be driven to the conclusion that where efficient surgical help and nursing are available immediate operation in spreading or general peritonitis due to appendicitis is likely to yield better results than can be obtained by delay.

—	Number of cases.	—	Deaths.	Mortality (per cent.)
Group 1.—Acute appendicitis without perforation.	200	Immediate operation.	5	2½
(Six cases entered within 36 hours of onset.)	55	Delay.	0	0
	255			
Group 2.—Acute appendicitis, perforated or gangrenous without abscess.	21	Immediate operation.	0	0
(Five entered within 48 hours of attack.)	34	Delay.	0	0
	55			
Group 3.—Acute appendicitis with peritonitis and abscess.	38	Immediate operation.	1	2½
(All entered after three days from onset.)	78	Delay.	2	2½
	116			
Group 4.—Acute appendicitis with diffuse peritonitis.	33	Delay in all.	10	30

Moreover, it must not be lost sight of that in any case of general peritonitis it is not always easy to make a diagnosis of the cause. If a gastro-intestinal perforation or an intestinal strangulation were the cause of the peritonitis no one would counsel delay in the hope of the disease becoming localised, and if delay were carried out the final result would as a rule be disastrous, as shown by the old method of treatment of perforated gastric ulcer with 95 per cent. mortality. That this uncertainty of diagnosis of the cause in general peritonitis is not imaginary is shown by a series of cases collected and reported on by Mr. B. G. A. Moynihan. Of 51 cases of perforated duodenal ulcer in only two was a correct diagnosis made. The clinical pictures of perforating appendicitis and of perforating duodenal ulcer are so nearly alike that no less than 18 of the series of cases of preforated duodenal ulcer were actually operated upon for appendicitis.

Acute pancreatitis may also simulate perforative appendicitis, as may other acute abdominal lesions, so that if delay in surgical treatment were to become the rule in practice I feel confident that it would lead to many disasters due to errors in diagnosis, not only in genuine cases of spreading and general peritonitis really due to appendicitis but in other cases of acute abdominal ailments that can only be dealt with successfully if seen in the earlier stages, and which are almost uniformly fatal if allowed to remain unoperated on for 48 hours or longer. For instance, in a large series of cases of peritonitis due to perforated gastric ulcer: of those in which the perforation is operated on within six hours of rupture, 90 per cent. should be saved, and in one series of such cases recently reported there was no mortality; whereas of all reported cases of general peritonitis due to perforated gastric ulcer where operation had been delayed for 48 hours, the mortality has been quite as great as, or greater than, if no operation had been done, and 95 per cent. of deaths have to be acknowledged.

Again, in typhoid perforation medical treatment or treatment by delay is generally acknowledged to be useless, the accident being almost uniformly fatal, such few recoveries as have been reported representing probable errors in diagnosis or accidental conditions not to be calculated on, such as limited adhesions; whereas early operation has yielded 25·9 per cent. of recoveries according to Harte and Ashurst, who having been brought on a month prematurely by a sudden severe pain starting over the cæcum. This cæcal pain had continued from 38 to 48 hours before labour set in, and from the time the pain begun up to my seeing her her condition had so rapidly deteriorated that we all feared her case was hopeless. I opened the abdomen in the middle line below the umbilicus, letting out a large quantity of very offensive pus. The primary abscess sac, which had ruptured, could be felt in the cæcal region, but as the patient was so extremely ill no search was made for the appendix. The abdomen was thoroughly washed out with hot solution of boric acid and free drainage adopted, a glass tube being placed in Douglas's pouch and a rubber tube in the cæcal region. Recovery was gradual but ultimately complete, and the patient is now well.

CASE 2. *Appendicitis; general peritonitis; operation on the third day; recovery.*—On Jan. 6th, 1896, I was urgently summoned by Dr. —— of Harrogate to see a case of peritonitis in a child, aged 10 years, which had started three days previously very suddenly with a violent pain over the appendix. The patient looked collapsed, had an extremely rapid pulse, dry tongue, pinched countenance, and somewhat distended abdomen. The case looked hopeless, but operation was advised as giving the only chance. The abdomen was opened over the appendix, as, though no induration could be felt, a thrill of free fluid could be elicited. Thin offensive pus was at once reached on opening the peritoneum, but there was an almost entire absence of barrier lymph, and not only the right loin but the pelvic cavity was full of pus, which was also flowing over into the rest of the abdominal cavity. These cavities were well cleansed with wool pads. The perforated and gangrenous appendix was easily found and removed, a large fæcal concretion of about the size of an almond being found in the loin outside the appendix. The abdomen was washed out with hot boric lotion and a drainage tube was left in the pelvis, one in the right loin and one was passed towards the spine. Progress to recovery was gradual, but sure, and the patient is now quite well.

CASE 3. *Appendicitis; general peritonitis; operation on the fourth day; recovery.*—On Feb. 7th, 1896, I saw a youth, aged 15 years, at Cleckheaton, with Dr. ——, on the fourth day of the disease. The onset had been sudden and the history of appendicitis was well marked, the tender spot being present. There was an entire absence of induration over the cæcum and but for a distinctly perceptible thrill over the right loin and over the lower abdomen I might have been deceived, as, though the face betokened distress, the pulse was only 100 and there was no marked distension. On opening the abdomen over the cæcum the pelvis and right loin were found to be full of pus, which was ichorous and very offensive. There was no attempt at limitation and the peritonitis was general. The appendix was gangrenous and perforated, and a fæcal calculus was found outside the appendix. The appendix was removed. Very free drainage of the abdomen was necessary, and three drainage-tubes were inserted, one in the pelvis, one in the right loin, and one right across the abdomen. Recovery was complete and uninterrupted and the patient is now well.

CASE 4. *Appendicitis; general peritonitis; operation on the third day; death.*—On July 28th, 1896, I saw with Mr. F. H. Mayo a youth, aged 21 years, on the third day of the disease, which had been sudden in onset. He was much collapsed and had a pulse of 14. There was violent sickness, and the abdomen, which was unusually tender, was much distended and very tense. No tumour could be felt, but the pain had started in the cæcum. Abdominal section was performed in a small room by candle-light. The appendix was gangrenous and perforated. A calculus of the size of a large pea was found outside the appendix, and on examination, chemically and otherwise, it was found to be a gall-stone, though there had been no previous history of his passing one. Pus was found all over the abdomen in large quantity, and it was not limited in the slightest degree. During the operation the patient was very much collapsed and, in fact, we feared he might die on the table, his pulse being barely perceptible, intermittent, and quite 160. The cavity was washed out as well as was possible in the circumstances and then drained freely. The patient never rallied and died from the combined effect of septic poisoning and shock within 12 hours.

CASE 5. *Appendicitis; general peritonitis; operation on the third day; recovery.*—On August 9th, 1896, with Dr. —— of Stanningley, I saw a girl, aged 14 years, on the third day of the attack. The pulse-rate was 120 and the patient was much collapsed; the abdomen was greatly distended; there was fluctuation in the right flank and loin, accompanied by sickness and vomiting. Abdominal section was performed. The appendix was gangrenous and perforated. A fæcal concretion was present and there was extensive suppuration, with general peritonitis; five ounces of offensive pus were found in the loin. There were no adhesions limiting the pus. The appendix was removed and drainage was effected by two tubes, one passing through from the abdomen into a counter-opening in the loin. Recovery was complete and rapid, without complications or discomfort.

CASE 6. *Appendicitis; general peritonitis; operation on the second day; recovery.*—A youth, aged 18 years, was seen by me with Dr. —— of Leeds on August 30th, 1896 The history showed that the present attack was quite sudden, but the patient had had two slight attacks of catarrhal appendicitis within the year. When seen by me 36 hours after the onset of the attack he was under the effect of opium and the symptoms were marked, the pulse being only 100; but the absence of tumour, the sudden onset, the hard, tense abdomen, and the marked tenderness over McBurney's point made me suspect perforation with extension of peritonitis. I therefore proposed that the morphine should be stopped and that I should see the patient in 12 hours again, when the rapid pulse (120), the increased distension, the fluid thrill in the loin and over the cæcum, with the increased tenderness, the absence of tumour, and the persistent vomiting made me decide on immediate operation. The abdomen was opened by an incision three inches long over the cæcum. Suppurative peritonitis was found, with entire absence of adhesive peritonitis around the original seat of disease; from 30 to 40 ounces of thin, very offensive pus were evacuated from the iliac fossa and the cavity of the pelvis, the small intestines being bathed with offensive matter. The appendix, very large and gangrenous, was found to be perforated, the opening being large enough to admit the tip of the little finger. It was removed where it joined the cæcum and the stump was invaginated and closed by Lembert's sutures. After the pus had been wiped away the abdomen was freely washed out with hot boric lotion. Two large drainage tubes were inserted, one to the bottom of the pelvis and the other into the right kidney pouch. From the evening of the operation the pulse and temperature became and remained normal and recovery was satisfactory in every respect.

Since that time an extended experience in cases of acute general peritonitis from various causes has convinced me of the value of this treatment, the salient points of which are: (1) the removal or repair of the cause with or without irrigation of the peritoneal cavity; (2) drainage of the site of operation by a split rubber tube containing a strip of gauze and of the peritoneal cavity by a tube in the pelvis, assisted by the reclining posture, which I have for years advocated after all abdominal operations; (3) rapidity of operation; (4) avoidance of unnecessary exposure and handling of the viscera; (5) the prevention of shock; (6) the free administration of saline fluid by the rectum; (7) rectal alimentation and the stoppage for a time of mouth feeding; and (8) the avoidance of opium and sometimes the administration of repeated small doses of calomel subsequently to operation.

This method of treatment has been carried out with various modifications successfully by many surgeons quite independently. A most interesting paper has been published by Dr. C. A. Morton[2] reporting 14 cases of diffuse peritonitis with 12 recoveries and he remarks: "The essential conditions of success in dealing with these cases of diffuse peritonitis are early operation, removal of the appendix, thorough sponging, and free drainage." Of the six cases of general peritonitis operated on at advanced stages when the upper abdomen was involved and a more extensive operation was done five died, but the details in these latter cases are not given in the paper.

Operative success by the more simple procedures led some surgical enthusiasts to believe that if only the treatment could be carried out more thoroughly by opening up every pocket of the infected peritoneal cavity, if necessary by turning out the abdominal contents (evisceration, as it is termed) and thoroughly purifying them either with some antiseptic solution or by washing with a simple saline fluid, and at the same time, if all adhesions were broken down, thick lymph flakes removed, distended intestines emptied and the cause were removed, better results would be obtained. Now, from a theoretical point of view this thorough treatment seemed admirable, but though doubtless many lives have been saved by it that would otherwise have been lost, practical experience has proved it to be disastrous and fatal in a considerable proportion of cases.

Some surgeons went further and suggested and even practised continuous irrigation of the peritoneum by running a stream of fluid through the abdomen, or even continuous lavage of the abdominal cavity by keeping the patients for hours in a bath of saline fluid with the abdomen opened so as to allow the fluid to bathe the viscera, methods of treatment fortunately not extensively practised.

Let us leave out of consideration the continuous irrigation and the bath treatment, which methods have, I hope, died with their victims, but the heroic method of treatment cannot be so dismissed; it is being practised by many surgeons at home and abroad. For instance, in one of the leading journals I read recently: "The abdominal cavity cannot be cleansed without evisceration and at the same time the bowels must be incised and the intestine emptied by rubbing between the index and middle fingers of both hands or with a special instrument, and if needful the stomach must be punctured and the cæcum opened."

Dr. C. A. Porter,[3] in giving the results of extensive operations in the Massachusetts General Hospital, stated that out of 161 cases operated on for diffuse peritonitis the mortality was 66 per cent., and out of 81 cases operated on for undoubtedly general peritonitis the mortality was 70 per cent. Dr. H. Howitt of Guelph reported[4] that he had operated on 34 cases of diffuse peritonitis due to various causes, with five deaths. In the perforated and ruptured cases the visceral contents had escaped into the unguarded peritoneal cavity. In many of the later cases there were distension and arrest of peristalsis. After describing the treatment of the early cases he remarks:—

> But how are we to manage the later cases, which too often result from the early signals of distress having been masked by morphine? In these it is common to have a ballooned abdomen and arrest of peristalsis from over-distension of the muscular coat of the bowels, while owing to the tension of the parts the heart sounds are transmitted so as to be distinctly audible in the hypogastric region. When

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[2] Brit. Med. Jour., June 1[illegible] 1906.

[3] Boston Medical and Surgical Journ

[4] Brit. Med. Jour., Nov. 1

movements disseminate septic material from the original focus of disease, it follows that Ochsner's method of withholding all food and fluid by the mouth before operation and feeding entirely by the rectum will tend to limit the spread of infection. In a large proportion of cases of appendical inflammation he has shown that by this means the disease may be localised. 10. Since movements of the intestine distribute the infection and purgatives increase peristalsis, the administration of aperients in the early stages of peritonitis from a local cause must always be a dangerous experiment and ought to be strictly prohibited, though after removal or repair of the cause purgatives may be useful if there is no mechanical obstruction and if the intestines are not paralysed.

I have spoken of several methods of treatment. 1. The old conservative method of rest, starvation, and opium, with its enormous mortality, which is, I am sorry to say, not yet wholly discarded. 2. The treatment by purgatives, which is useless in the presence of paralysed intestines and hurtful and dangerous, especially at the commencement, when the cause has not been removed, but which as an adjunct to treatment after removal of the cause is often of great service in promoting natural drainage and preventing or relieving distension. 3. The improved conservative method of Ochsner in appendical peritonitis, which in his hands and in the hands of some other skilled surgeons has yielded good results, but the general adoption of which may from errors in diagnosis and from unwise delay at the commencement lead to other dangers, and which in general peritonitis in the hands of other surgeons does not appear to yield the good results obtained by the limited operation. 4. The heroic and extensive operative treatment with evisceration that was supposed to be an improvement on the limited operation, but which, though still pursued as a routine practice by certain surgeons, is on the whole disastrous in its results and can only be justifiable in a very limited proportion of cases. 5. The limited operative treatment which, so far back as 1896—i.e., ten years ago—was shown to be capable of yielding very fair results, 83·3 per cent. of recoveries; and which, with certain modifications and improvements, is the treatment that in the practice of several surgeons has recently yielded such a large proportion of recoveries. If we carefully examine these various procedures in the light of recent experience and recent discoveries, we see how evolution has led to a retention of what is beneficial in treatment and a rejection of what is unnecessary or harmful. My own experience, which has embraced the various methods of treatment I have mentioned, has convinced me that the chief factor in the successful treatment of spreading and of general peritonitis is early diagnosis and operation without loss of time. I sometimes wonder whether the discovery of the wonderful effects of a subcutaneous administration of morphine has been a greater blessing or curse to humanity, for though one would not for a moment say that in certain cases of painful disease it is a remedy to be spared, yet in the treatment of early peritonitis it is undoubtedly not an unmixed blessing, as it is quite capable of completely masking the early symptoms and so leading to fatal delay. We have all seen many examples of this, but I never had a better example than one which came under my observation quite recently.

About ten o'clock one night last month I received a message from a medical friend to see a patient and to come prepared to operate. On arrival at the house my colleague apologised for troubling me at so late an hour in what seemed unnecessary haste, as the patient was then apparently quite well as the result of having had a morphine injection a few hours before. The patient, a man of about 35 years of age, had been seized suddenly at 4.0 o'clock A.M. of the same date with violent pain above the umbilicus, which later had been referred to the cæcal region; this was followed by vomiting, abdominal rigidity, inability to pass flatus, and an increasing pulse-rate. In the afternoon the pain became so agonising that morphine was given and when I arrived all symptoms had vanished and the patient expressed himself as well and looked so, but on palpating the abdomen I found rigidity of the right rectus, and on deep palpation I elicited tenderness over the appendix, but besides this I felt a fluid thrill across the lower abdomen. Without hesitation I diagnosed acute appendicitis with commencing peritonitis and operated within an hour, when I found free fluid on opening the abdomen and an appendix already gangrenous and not protected by adhesions or barrier lymph. The appendix was rapidly removed and the fluid was taken up with dry sterile gauze so effectually that I did not find it necessary to drain and the patient made a rapid and uninterrupted recovery.

This is one of many such cases that I have seen and operated on, thus saving a general peritonitis. Had my medical friend been deluded by the effects of the morphine, the patient might have been subjected to an exceedingly dangerous illness and possibly might have lost his life. In a case like this local treatment without drainage is all that can be required.

Take another case that I saw at the Greenwich Hospital, of a young man who was admitted while I was visiting and whom I saw in the casualty room within 12 hours of his having been seized with violent abdominal pain almost altogether over the epigastrium. The history, taken with the presence of muscular rigidity, general tenderness over the abdomen, and a distinct fluid thrill across the hypogastrium and in both flanks, enabled me to diagnose a peritoneal catastrophe with spreading peritonitis. My proposal to operate, I was informed later by one of my colleagues, was looked upon as rash in the extreme, but when within half an hour I made an incision into the abdomen through the outer edge of the right rectus and found liquid fæces bathing the small intestine and filling the loins and pelvis, the opinion as to rashness was considerably altered. The cause was a perforation of the cæcum and appendix at the junction of the two. In this case I not only removed the appendix but washed out the pelvis and loins with normal saline fluid, inserting a rubber drain into the pelvis through a small incision above the pubes and another into the lower end of the wound at the site of the disease. The patient was propped up in bed to assist drainage and had saline fluid administered by the rectum; he made a rapid recovery and, I think, owes his life to immediate operation. Had the fluid been simply thin serous exudate, offensive or not, I should not have employed lavage, but should have been content with removal of the cause and drainage.

In 1905[5] I reported a case of diffuse peritonitis from perforative appendicitis in a patient, aged 70 years, treated successfully by the removal of the cause and drainage, showing that advanced age is no barrier to recovery if the operation is performed sufficiently early before a lethal dose of poison has been absorbed.

Another example from a different cause shows how the simple operation of drainage may be all sufficient if done early. A short time ago at a nursing home I performed inguinal colotomy upon a middle-aged man for irremoveable cancer of the rectum threatening complete obstruction and opened the bowel on the second day. All went well for a week, when I was urgently summoned to find that my patient had been seized with sudden abdominal pain followed by vomiting and distension; as the artificial anus had acted freely there was clearly no obstruction of the large bowel and as the pulse had become rapid and the abdomen rigid, and as a fluid thrill could be felt across the hypogastrium, I could only diagnose acute peritonitis from an unknown cause. On opening the abdomen, I found the pelvis full of very offensive thin pus, and this was bathing the small intestines and was not limited in any way. As rapidly as possible I wiped it away with dry absorbent gauze swabs and then passed my fingers into the pelvis, to find that an abscess had formed quietly around the growth and had then ruptured suddenly into the free peritoneal cavity; a long drainage tube was passed into the pelvis through a small incision over the pubes and the exploratory wound was closed. The patient was then propped up in bed so as to favour drainage. He returned home within five weeks of the original operation and is now I am informed getting about wonderfully relieved by his colotomy, having gained weight and strength and being able to perform his duties as a farmer.

Did time permit I could give other examples of cases in which the abdomen has been filled with offensive fluid, from perforated appendices or other causes, not limited in any way by lymph barriers or adhesions, where a local operation for removal of the cause followed by hot saline irrigation and pelvic drainage in some cases or by simple pelvic drainage without irrigation in others, has been completely successful in bringing about recovery even in apparently desperate conditions. Sometimes, however, it may be advisable in later cases (and I say this with all respect to my collected *362 cases of typhoid* fever operated on for acute peritonitis, with 94 recoveries, and in 89 of the fatal cases death occurred from causes apparently unconnected with the operation.

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[5] Brit. Med. Jour., July 1st, 1905.

Dr. L. W. Hotchkiss in the *Annals of Surgery* for August, 1906, has given his experience of operations for general peritonitis at different periods. From 1895 to 1899 he *treated* 12 cases of general peritonitis due to appendicitis with 11 deaths, a mortality *of 91·6 per cent.* These results were obtained by freely opening the abdomen, more or less evisceration, *saline irrigation*, and *drainage*; in other words, by an extensive operation, and the mortality *was very large*, 91 per cent. From 1899 to 1903 he had 15 cases of spreading *peritonitis with no mortality; these were treated* by rapid removal of the appendix with as little traumatism as possible, absence of gauze packing, free irrigation of the pelvis and lower abdomen with hot *normal saline solution*, and drainage of the site of operation and of the pelvis. From *1903 to 1908 he had 28 cases of diffuse* suppurative peritonitis with five deaths, in which the same method of treatment was adopted but without, as a rule, draining the general *peritoneal cavity, the drainage being merely* that of the wound down to the peritoneum, unless there was local necrosis. *In remarking on saline irrigation* to the peritoneum Dr. Hotchkiss says the use of saline irrigation through the small lateral incision does not consume much *time and seems* by diluting the remaining fluids to hasten their absorption, besides acting generally as any intravenous *infusion would to hasten the removal of toxins* by dilution, *and in other ways* benefiting by stimulating the heart and circulation. This has certainly been my experience in the employment of saline irrigation. The work of Clark and Norris seems to show that saline solution in the peritoneum minimises the *danger of pyogenic infections. Dr. Hotchkiss* says, *in speaking of drainage*, that the peritoneum, after removal of the cause, has proved *itself* abundantly able to take care of the resulting inflammation and that drainage in the absence of local necrosis is often ill advised and not based upon sound *physiology or mechanics. He believes that drainage* can be *eliminated as* a factor of importance in the treatment of diffuse suppurative peritonitis. Where there is an area of local necrosis not removeable it must of course be isolated and the area drained on general *principles.* We *see* that in the hands *of* one and the same surgeon an extensive operation was attended with a 91 per cent. mortality; a *local* operation *for removal of the* cause with irrigation and drainage had no mortality, and a local operation without drainage had a mortality of 17·8 per cent., though he thinks the absence of drainage was not responsible for the increased death-rate. Personally, I cannot but *think* that drainage in these cases is safer, and Dr. Hotchkiss's experience does not convert me to the course of doing without it in diffuse peritonitis.

I now come to the *conservative operation for acute perforative peritonitis*, which, as remarked by Dr. Murphy, though not new in any of its *details*, owes its success to a more enlightened application of surgical principles long understood and practised in treating infectious surgical ailments in other parts of the body. Many workers at home and abroad have helped to bring this treatment to perfection, but the *experience* of Dr. Murphy, 35 recoveries out of 36 cases operated on, *gives results far superior* to anything that has preceded it. *In his technique it will be seen that he* has eliminated unnecessary and harmful procedures and has retained everything apparently necessary and good. *Dr.* Murphy has recently stated his belief that the virulence of the infection in general suppurative peritonitis has *practically little or nothing to do with* the result of operative treatment, as in the series of 36 cases all the varieties of infection, colon bacillus, staphylococcus, gonococcus, pneumococcus, streptococcus, or their combination occurred and did not interfere with success. He *attributes the failure of success* in the past to delay in operating and to the fact that surgical intervention is either excessive or deficient. *The extensive manipulations* and washings of the intestines on the one hand leading to fresh and overpowering absorption of septic *material, and* on the *other hand*, when the source of the septic supply is not removed and drainage alone is adopted, death frequently occurs from a *continuance of the poisoning.* He *also thinks that failure* often occurs from the fact that secondary circumscribed abscesses are not drained *early enough and that post-operative ileus is often* not operated on in time. He attributes the success of his present practice to (1) relief of pressure at the site of the *infection*; (2) providing for continued drainage; (3) avoiding manipulation, sponging, and washing of the peritoneum, refraining from separating adhesions, and rapid operation; (4) aiding the elimination of the ptomaines and toxins in the blood by the administration of large quantities of fluid through the rectum; (5) *assisting with gravity the flow* of pus to the least absorbent zone of the peritoneum (the pelvis) through the Fowler position; and (6) the *administration* of large doses of streptolytic serum. The most important of these measures Dr. Murphy states are (1) rapidly treating the cause without *unnecessary manipulation* or *traumatism to the peritoneum*; (2) relieving the pus pressure by drainage; and (3) the giving of large quantities of fluid by the rectum.

To the proper understanding of the treatment of peritonitis we must first grasp certain facts. 1. That the lethal *issue of acute peritonitis is due to poisoning from toxins* formed in, and absorbed from, the general peritoneal cavity. 2. That infection may arise either from perforation of one of the hollow viscera directly *into the peritoneal cavity* or from the passage of infective germs through the unbroken walls of the gastro-intestinal canal or its diverticula in certain unhealthy conditions, such as paresis with distension or interference with the circulation. Examples are seen in strangulation of *a portion of bowel as in strangulated hernia* and in phlegmonous inflammation as in acute cholecystitis or acute appendicitis. 3. That, as shown by Dudgeon and Sargent and by Moszkowicz, in cases where the peritoneum is not flooded with septic organisms, as in perforation of a hollow viscus, the first organisms to migrate are the *mild* staphylococci albi which give rise to increased phagocytosis and to a certain extent prepare the peritoneum against the further invasion of the more virulent *germs. This fact has* been *recently drawn* attention to *by* Mr. C J. Bond, who attributes the great advantages of the *modified* operation over the extensive one to the non-interference with these protective organisms and protective sera. 4. That, as shown by Mr. Bond, *there is a certain class of cases in which the peritoneum is flooded* with *the virulent organisms* and the patient may be killed in a very short time if they are *not removed and he thinks that in these conditions irrigation* and thorough cleansing, if needful by evisceration, may be justifiable. 5. That, as shown first by Lawson Tait, the use of opium masks *symptoms* at first and leads to a false sense of security, frequently deceiving both the patient and the *medical attendant and leading to fatal delay, whereas* later it increases intestinal paresis and leads to distension and, as has been shown by recent *observers*, to an inhibitory effect on leucocytosis. 6. That in order for drainage to be effectual in general peritonitis the cause must as a *rule* be *repaired or removed so that fresh poison may not* invade the peritoneum. This is well shown in ruptured duodenal ulcer, in the treatment of which simple drainage has proved *uniformly fatal*, whereas drainage after repair of the perforation has led to a large proportion of recoveries. 7. The administration of saline fluid by the rectum has been long recognised as a most useful procedure, but the fact of the rectum being capable of absorbing *enormous* amounts of fluid has been *demonstrated* only recently by Murphy, who *considers it one of the most valuable parts of his treatment*. He says that it reverses the current of the lymph stream, so that instead of absorption taking place from the *peritoneal surface* the mouths of the lymphatics pour out fluid which bathes the peritoneum and *carries the infection down to the pelvis. Moreover, the fluid absorbed* from the rectum fills the vessels, combats shock, and is *excreted by* the kidneys, carrying with it the septic *material that has* already entered the blood. 8. The semi-sitting posture usually known *as Fowler's position is of great* benefit after operation, as the fluid in the peritoneal cavity tends to fall by gravity into the pelvis, where *it* is removed by the drainage-tube; *and it has been clearly proved by* the experimental work of Clark, who has confirmed the earlier *observations* of Muscatello, *that absorption takes place much more* actively through the lymph spaces of the diaphragm. In the Fowler position the infective fluid is drained away *from the diaphragmatic area to the less* dangerous pelvic region. The semi-recumbent posture I have used extensively in *all* my abdominal operations *for years past* with great advantage, as besides allowing fluids to gravitate to the less dangerous pelvic region the *chest is relieved and* the heart *and lungs act* with greater freedom. 9. All *food* or fluid given by the mouth sets up peristalsis *not only of the stomach but also of the intestine*, and as gastro-intestina dealing with a form of cyanosis of a somewhat fleeting character, attended occasionally by distressing symptoms, and while comparable in its physical appearances with the cyanosis observed in congenital heart disease yet free from cardiac lesion. It is to this physical sign of a toxæmia that I wish particularly to draw your attention to-day. The absence of heart disease and the fact of the rather rapid appearance and equally rapid disappearance of the blueness point to the operation of circumstances that can be frequently controlled. The malady to which I refer is the result of the circulation of poisons generated for the most part within the intestine. The cyanosis is therefore of the nature of an auto-intoxication, or it is the result of the ingestion of some of the synthetic drugs of the aniline class, many of which form the principal ingredient of proprietary medicines that are within easy reach of the public. As I have not at present a patient suffering from enterogenous cyanosis in the infirmary I show you a youth, aged 18 years, who is the subject of congenital heart disease. His cheeks and lips are blue, so, too, are his hands. He tells us that he has always been blue even as an infant and that at times he is the subject of dyspnœa and of considerable cardiac distress, also that there has been no œdema of the feet, blood-spitting, or epistaxis. Well-marked double murmurs are heard over the site of the pulmonary artery and there is a distinct thrill felt at the apex just before systole. The appearance of the patient recalls the blueness observed in the malady to which I am about to draw your attention. Before doing so, however, let me remind you that when the blood is markedly venous in any patient, although the presence of the increased quantity of carbon dioxide contained therein stimulates the respiratory centre to greater activity it does not follow that the more frequent respirations fully compensate for the excessive venosity of the blood. When the defect in congenital heart disease is a patent foramen ovale some of the venous blood from the inferior vena cava may pass into the left auricle and mix with that coming from the lungs, less blood in consequence being sent to the lungs for aeration, and in cases where the defect is an incomplete inter-ventricular septum there may take place an admixture of arterial and venous blood by which the general cyanosis may be explained. Another explanation of the blueness of the face and extremities is to be found in the retarded flow of blood through the capillaries, whereby the blood parts more completely with its oxygen and absorbs more carbonic acid. To minimise as far as possible the imperfect aeration of the blood in congenital heart disease there is developed a polycythæmia, or an excess of the red corpuscles of the blood, which by increasing the absorbing surface for oxygen ought to prove itself a useful adjuvant, but as the blood in those circumstances contains less water its greater viscosity does not facilitate the circulation through the small blood-vessels but tends to retard it.

Enterogenous cyanosis.—The cyanosis in this young man, who is the subject of congenital heart disease, is permanent. Imagine the same colouration, but attended by a degree of pallor or saturnine cachexia, developing in a patient rather suddenly and sometimes as quickly disappearing, coming and going without at first any explanation, and you have the appearances that are observed in toxæmic cyanosis. The first case I shall detail to you is that of an unmarried woman, aged 27 years, who beyond having been the subject of recurrent eczema had had good health until eight weeks previously to my seeing her, when she had a heavy uterine hæmorrhage followed three weeks later by a rather sudden development of cyanosis. When I saw her she looked ghastly pale, and her cheeks, lips, tongue, and fingers were blue. Her lungs and heart were perfectly healthy; her pulse was 120. The abdominal organs were healthy. She was passing urine of a deep port wine colour, with a specific gravity of 1032 and containing a trace of albumin. Under the microscope nothing was detected. On further examination of the urine neither methæmoglobin nor hæmatoporphyrin was found. A fortnight afterwards another sample of urine had a specific gravity of 1023; it contained a trace of albumin and seven grains of urea per ounce. It was still deeply coloured. The patient's blueness came and went without any explanation. There was a tendency for the bowels to be rather loose and the patient complained of headache and of a feeling of sickness and listlessness. When I saw her again a few weeks afterwards in consequence of a complaint of a slight oozing of blood from the uterus I examined her per vaginam, but beyond some retroflexion the womb was healthy. As the patient lived in the country I only saw her at intervals of weeks or months, often during an attack when there was still to be observed the peculiar combination of pallor of the face and blueness, with complaint of headache and slight shortness of breath but no palpitation. The pulse varied from 98 to 112. The tongue was usually very blue; it looked as if it had been painted. There were no cardiac signs or symptoms; the apex beat of the heart was in the left nipple line and about one inch below the nipple. The bowels were always rather loose and in consequence the urine was scanty, being seldom more than half a pint per day. Some of the dark-coloured urine I sent to Professor Bedson of the Armstrong College for chemical analysis but the only explanation he could offer of the pigment present therein was that it was some pathological form of urobilin. It cut off some of the blue line of the spectrum just as biliary compounds do. At this stage of the illness I had not yet come to any determination as to the cause of the cyanosis and the dark-coloured urine. As already stated, the patient in the early part of her illness had suffered from eczema and for this she had been in the habit of applying rather extensively a paste made of ichthyol, zinc carbonate, and gelatin. Four months after my first interview with this patient she was suddenly seized, when walking in Newcastle one day, with severe fainting and collapse and for the time her condition was most alarming. She was removed to an adjoining house where, very shortly after the seizure, I saw her. She was conscious but in considerable distress. Although there was no acute dyspnœa respiration was quickened, 30 to the minute, and appeared to be ineffective. There was no palpitation or sense of cardiac distress, although her pulse-rate was 160. There was a peculiar pallor of the face and yet the cheeks, lips, and fingers were extremely blue. The pupils were equal and medium sized. The temperature was 99·5°. The skin was warm. There was no headache or pain anywhere but a sense of extreme prostration. On examining the heart the apex beat was felt just at the left nipple and was diffused. Beyond being rather feeble the heart's sounds were healthy at all the orifices. The lungs were perfectly healthy. The liver, spleen, and abdominal organs generally were apparently normal. There was no anæsthesia or hyperæsthesia, and the knee-jerks were normal. Later in the afternoon I had the patient removed to a private hospital. On the following day her temperature was 99·4°, her pulse was 88, and her respiration was easy. The patient still looked pale and her lips were cyanosed. Examination of the heart, lungs, and abdomen revealed nothing abnormal. I now ascertained that when the patient was very blue there was temporary loss of power in the bladder, necessitating the passing of a catheter. Only four ounces of very dark-coloured urine had been passed since the previous day. The blood which I drew from the lobe of the ear was extremely dark and did not coagulate readily. It contained 37 per cent. of hæmoglobin and 3,100,000 red blood corpuscles per cubic millimetre. Spectroscopic examination of the blood showed the two bands given by oxyhæmoglobin. The patient, immediately prior to this attack, had been applying a 10 per cent. solution of ichthyol over large eczematous areas on the thighs. The application of the lotion was discontinued, and when seen seven weeks afterwards there was just a tinge of blueness in the lips and lower part of the gums. Her pulse was 110, there was slight dyspnœa on exertion, and the condition of the heart was unaltered. Professor Bedson analysed another sample of the dark-coloured urine and reported that it contained a sulphur derivative of indigo blue. For some time after her recovery from the severe fainting attack, in which she nearly died, the patient experienced attacks of pain in the abdomen, recurring at irregular intervals, and which caused her to feel sick but not to vomit. These pains were followed by diarrhœa and headache. Months after the external application of ichthyol had ceased the urine remained dark, the pulse rapid (110 per minute), the lips and gums blue, the heart's sounds normal, and the general health satisfactory. The patient subsequently married and with this change of state her cyanosis and other symptoms entirely disappeared. At the time of her illness I suspected, after eliminating ichthyol poisoning, chronic aniline toxæmia, but the patient was wearing, not brown, but black shoes and consequently the symptoms could not be attributed, as in France, to the use of aniline boot polishing pastes or restoratives. All forms of drugs were inquired into but their use was denied. It was not friend Dr. Murphy's opinion) when the intestines are paralysed and enormously distended to perform a temporary enterostomy so as to relieve distension before closing the abdomen; in fact, it is at times impossible to bring the edges of the wound together, after removal or repair of the cause, until this has been done; it is most conveniently and rapidly performed by means of Carwardine's tubes, the opening in the bowel being rapidly closed, after it has been emptied, by a purse-string suture. A case of this kind I reported in 1905.[6]

A thin, active, and intelligent school-boy was quite well and playing golf on Thursday, Jan. 12th. On Friday he did not feel well and could not take his breakfast. In the evening he complained of a little pain in the left lower abdomen, but there was no tenderness on pressure anywhere and the abdomen was quite flat. On Saturday morning the pain on the left side of the abdomen still continued, but there were no further symptoms, though he looked ill and had a "typhoid" expression. His bowels were moved during the day. The temperature in the evening was only 99° F. and the pulse corresponded. During the night he had more pain. On Sunday morning when I asked to see him the abdomen was greatly distended and did not move with respiration. He vomited once or twice and could not pass flatus. The pain was altogether on the left side, though there was rather more rigidity on the right. A fluid thrill could be elicited in both flanks and across the lower abdomen. On opening the abdomen through the right rectus sheath on the afternoon of Sunday, Jan. 15th, within 24 hours of the onset of acute symptoms, thin sero pus escaped and a gangrenous perforated appendix was at once discovered hanging over the brim of the pelvis. The inflammation was not limited by barrier lymph. The pelvis and both flanks were filled with septic fluid which bathed the small intestine and the viscera generally. The abdomen was flushed with hot normal saline solution until the fluid returned clear, and as the small intestines were immensely distended and presented here and there dark patches of impending gangrene a loop of ileum was brought out and incised transversely, giving exit to a large quantity of gas and thin liquid fæces. This opening was held outside the abdomen and when the distension was relieved the opening was closed by a mucous and a serous suture, and after lavage with saline solution the protruding loop of gut was returned and the abdomen closed, a rubber drainage-tube containing a strip of gauze being placed so as to drain the pelvic pouch. The patient only vomited once after coming round from the anæsthetic and had the bowels moved freely the day after operation. There was no return of distension and the tube was removed on the second day and replaced by a gauze drain which was changed daily for several days. He was up with the wound healed by the end of the month.

I feel bound to confess that my experience of extensive evisceration has been such as to make me hesitate either to perform it again or to recommend others to do it, as though I have seen occasional successes they have been decidedly the exception. In cases of perforation from gastric ulcer or duodenal ulcer early operation is of vital importance, as shown by the statistics drawn from a large number of cases, and I think the time will arrive when early operation will be performed with a mortality not exceeding from 5 to 10 per cent. That this is not a mere idle imagining can, I think, be proved by the series of early cases operated on by Dr. T. Sinclair Kirk and reported last year—11 consecutive cases without mortality. In some of the cases caught early a mere wiping away of the effusion with repair of the cause is quite efficient without drainage of the peritoneum, a method of treatment to which attention has especially been drawn by my friend, Mr. H. Littlewood, and which I have myself thought to be sufficient only in exceptional cases but in the majority of cases where the whole peritoneal cavity has been bathed with the effused stomach contents I prefer, after repairing the rupture, to flush out the cavity with hot normal saline fluid, to drain the pelvis by a tube passed through a small opening above the pubes and to prop the patient up almost in the sitting posture. That flushing out of the peritoneal cavity is not always necessary and that good results may be obtained by simple drainage and repair of the cause has been shown by Mr. Edward Ward,[7] Dr. Murphy, and many other surgeons.

Time will not permit me to relate the history of further cases, otherwise I should have liked to mention examples of peritonitis from perforation of the gall-bladder and bile-ducts, from acute pancreatitis, and from other causes, in which the same principles of treatment have been carried out. In typhoid perforations it is quite clear that an extensive operation can never be borne and that a rapid repair of the cause and drainage will yield the best results. In the after-treatment the administration per rectum of large quantities of saline fluid with which liquid peptonoids and some diffusible stimulants are mixed is most useful, and if needful it may be supplemented by subcutaneous or intravenous saline infusion. Feeding by the bowel may be supplemented by the subcutaneous administration of a 5 per cent. glucose solution or by the administration of sterile olive oil subcutaneously, as suggested by Dr. W. Hale White, until the stomach is capable of retaining nourishment. Liquor strychninæ in five-minim doses subcutaneously every four hours is most useful in combating shock and strengthening the heart. After removal or repair of the cause of the peritonitis one eighth of a grain of calomel given every hour or two by the mouth until a grain has been administered not only helps the passage onwards of flatus, but by its antiseptic effect tends to prevent decomposition in the gastro-intestinal contents and so to arrest the formation of gas; if necessary a turpentine enema is given to assist the expulsion of flatus from the large intestine. If there is distension of the upper abdomen with inefficient vomiting, or if vomiting is persisting, gastric lavage is resorted to and if needful repeated from time to time, a method of treatment that often gives great relief.

The decubitus subsequently to operation I have formerly referred to and as it is important in all these cases to keep patients well propped up I feel sure that a method I have been employing for some time is worth relating. It was suggested by my colleague, Dr. J. A. C. Forsyth, and consists of a firm roll, about four inches in diameter, placed on the bed below the patient's buttocks and retained in position by firm linen straps passing from each end to the top bar at the head of the bed. The patient, propped up by pillows, seems to sit comfortably on the pad, which prevents him slipping down as usually occurs with ordinary bed-rests. During operation and for some hours afterwards I find that the wearing of a cotton-wool suit, made by the nurses from Gamgee tissue, is of great assistance in preventing shock, for when the patient is propped up it is difficult to keep him covered by the bedclothes, and at the time of operation the limbs are apt to be exposed and so to lead to loss of the body heat already often lowered by the disease.

Had time permitted I should have liked to mention the subject of the prevention of peritonitis by removal of the causes—for instance, the early treatment of cholelithiasis by removal of gall-stones, the surgical treatment of gastric ulcers that have failed to yield to medical treatment, and the early removal of an inflamed appendix before dangerous symptoms have developed—but I fear I have already detained you too long. I shall, however, be satisfied if I have succeeded in convincing my audience that peritonitis causes death by toxæmia, and that if an early diagnosis is made and the cause removed or repaired before the blood has become overloaded with poison—in other words, if delay is avoided and adequate treatment carried out at once—there is no reason why peritonitis should figure so largely in the Registrar-General's annual death returns.

CYANOSIS, GENERAL AND LOCAL.

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IT is a mere accident that it has fallen to me to deliver this, the first clinical lecture in our new infirmary. On behalf of my colleagues and myself permit me to extend to you a hearty welcome to this palatial institution wherein if only as good clinical work be done as in the old Royal Infirmary none of us will have cause to regret the change, while the patients, by being treated in purer air, will have the chance of making a more speedy recovery.

Within the last few years there has grown up a literature been discussing some of the causes of general cyanosis. In the few minutes that remain to me I shall deal with localised blueness such as is seen in the hands and feet and which bears the name of a Frenchman, Maurice Raynaud, who first drew attention to it in 1862. The malady is not a pathological but a clinical entity and is due probably to some defect in the nervous system, of which defect we know absolutely nothing. The symptoms and physical signs may develop at any period between infantile life and old age. Females are more liable to the affection than males and among exciting causes must be mentioned exposure to damp and cold and the operation of fatigue and mental shock upon persons of a peculiar nervous constitution. A patient's attention is usually in the first instance directed to her fingers owing to an unpleasant tingling and sense of pain. Three stages of the malady are usually described: (1) local pallor (syncope); (2) local cyanosis (asphyxia); and (3) gangrene. The pallor is intermittent. The fingers become "dead" and extremely white as if no blood was circulating in them. This is accompanied by a sense of numbness and tingling which may go on to actual pain if the pallor lasts long enough, when distinct anæsthesia will be detected. These attacks come and go several times in one day. The patients under my own care have generally complained of the deadness of the fingers coming on when washing themselves in the morning or when playing the piano, touching the cold keys of which seemed to be sufficient to induce vascular spasm. Subsequently, but not as a necessary consequence, the fingers and hands become cyanosed; they become bluish-red and when pressed upon the skin remains pale for a longer time than it does in health owing to the slow return of blood. After frequently repeated paroxysms the hands begin to look fuller, larger, and somewhat misshapen, and yet there is no œdema present. During the cyanosed state, which is often aggravated by cold and by hanging down of the hands, there is complaint of tingling with slight loss of sensation. In bad cases the trophic changes set up in the hands and fingers lead to gangrene. Other parts of the body than the hands and feet may be affected—e.g., the ears, the chin, the labia majora, and the tissues over the lowest part of the spinal column. When gangrene is about to take place there is first observed a blister filled with sero-sanguinolent contents. The blister either bursts or gets broken and there is formed an ulcer, or the deeper tissues become necrosed and the finger nails, or the fingers and nails, are thrown off in a mummified form, a conical stump remaining. This is what occurred in the child, the halves of whose hands, with fingers entire, are depicted in this drawing of a specimen in the College museum, to which my attention has been drawn by Dr. R. A. Bolam. No history is attached to the specimen other than than that the patient, a child seven years of age, was attended by one of the dispensary visiting medical officers under the supervision of Dr. Bigge, whose untimely death prevents us getting to know all the facts of the case other than that it was one of Raynaud's disease of the worst type. The half of each foot first became gangrenous and, having sloughed off, was thrown into the fire. Subsequently the half of each hand sloughed off but the specimens were fortunately rescued from the fate that befell the feet.

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[6] Ibid.

[7] THE LANCET, July 7th, 1906, p. 19.

[1] A clinical lecture delivered in the Royal Victoria Infirmary, Newcastle-upon Tyne, on Oct. 10th, 1906.

The pathology of Raynaud's disease is not known. No special lesion has been found in the cardio-vascular system or in the nervous system, central or peripheral, and yet there must be some nervous cause, since it occurs after emotional states. The causes of tissue death are: (1) obstructed arterial circulation; (2) impeded venous flow; (3) obstructed capillary circulation owing to diseased walls of vessels; and (4) death of the cells by poisons due to microbes. Excepting in those cases where gangrene has occurred and where the structural alterations in the blood-vessels and nerves have been the consequences rather than the cause of gangrene, no constant changes have been found in the peripheral nerves and blood-vessels. The manner in which quite suddenly the fingers in the early stages of Raynaud's disease become deadly pale is quite in keeping with the view of sudden spasm of small arteries, while the shutting off of the blood-supply explains the tingling and numbness the patients complain of. Spasm of the veins, by preventing the flow of blood through them, would lead to a reflux towards the capillaries, a retarded circulation, and loss of the normal interchange between the blood and the cells of the tissues. We are familiar with arterial spasm, but we know little of venous spasm and yet the latter just as readily explains the presence of local cyanosis as the former explains the local pallor. When we come to discuss the occurrence of gangrene in Raynaud's disease it is difficult to explain it on the ground of arterial spasm, for constriction of arteries can take place in other parts of the body and be even protracted without gangrene following, and venous stasis can develop without necrosis as a consequence. It would seem, therefore, as if some peculiar local change occurred in the tissues of the part affected in Raynaud's disease, whereby either in consequence of the contraction of arteries and veins due to some central nervous condition influencing the vaso-motor centre, or in consequence of altered chemical states of the blood or pathological changes in the walls of the minute vessels, that either of these conditions singly or combined but accompanied by poisoning of the cells of the part either through their own toxins or by poisons brought to them is capable of causing death of the tissues and the formation of a gangrenous slough.

Treatment of the cyanosis of congenital heart disease is that of symptoms as they arise; of enterogenous cyanosis the detection of the cause and if due to drugs discontinuance of the drugs; if there is auto-intoxication from the elaboration and absorption of intestinal poisons, correction of the same by cholagogue purgatives and intestinal antiseptics; while for Raynaud's disease protection from cold, the administration of tonics, and the use of electrical baths; but under all circumstances the treatment of Raynaud's disease is generally unsatisfactory.

Newcastle-upon-Tyne.

SOME PATHOLOGICAL CONSIDERATIONS OF EXTRA-UTERINE PREGNANCY.

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PROBABLY no branch of obstetrics and gynæcology has received more attention in recent years than extra-uterine gestation. It is chiefly due to the observations of the surgeon, and more especially the pathologist, that the condition can now be diagnosed with some degree of certainty and on the pathological findings the old expectant treatment has fortunately been forced into the background. As regards the etiology of extra-uterine pregnancy very little is known. It is assuredly unnecessary for its production that the tubal mucosa should be in an inflammatory condition. It seems not unlikely in some cases that it develops in one of the tubal offshoots which may be observed occasionally in the microscopical examination of Fallopian tubes. We can, however, regard it as quite analogous to uterine pregnancy, its course and peculiarities of structure being considerably influenced by its anatomical surroundings. At first the possibility of decidual formation was strongly resisted by some gynæcologists but of late years pathological evidence has been brought forth in support of such an occurrence. When we take into consideration the small amount of connective tissue underlying the tubal mucosa it is not surprising that the decidual production is scanty relatively to the formation in a uterine pregnancy. Yet if one cares to study patiently a number of sections from extra-uterine pregnancies one can rest satisfied as to the undoubted presence of decidual cells. In sections taken from the twin pregnancy reported below decidual cells could also be demonstrated at parts remote from the placenta, so that I am convinced of the formation of a structure corresponding to the decidual cells in the uterine reflexa. It is somewhat unfortunate for the ease of differentiation that the cells of fœtal origin—namely, Langhans's cells—should so closely resemble decidual cells, but after giving full consideration to such there are at almost all parts, and especially in relation to the arterial walls, cells the origin of which can only be ascribed to the connective tissue (Fig. 1).

Nothing in the pathological study of extra-uterine pregnancy is more striking than the ease with which the fœtal cells (syncytium and Langhans's layer) invade the fibromuscular wall of the tube. Towards the point of rupture they have a most vital aspect, some parts resembling the fields seen in deciduoma malignum. These cells unaided, or by the force of hæmorrhage, may penetrate the wall till finally rupture occurs, and the naked eye detects small until recently I learned that as the patient had had ready access to a surgery she had been in the habit of taking regularly large quantities of acetanilid and caffein for headache and nervous depression.

Within the last two months other two cases of a similar character have come under my care—one a female, aged 50 years, who had got into the habit of taking almost every second or third day five grains of phenacetin and ten grains of aspirin, often repeating the dose two or three times in one day. She noticed that she always became blue after taking a few doses of this medicine. The urine would be extremely dark although free from albumin, sugar, and the presence of blood. Another female, aged 36 years, the subject of marked cyanosis and whom some of you saw with me in the wards of the old infirmary, had healthy heart's sounds and was passing dark-coloured urine. She admitted to taking rather frequently caputin powders for headache. On discontinuing the use of these powders the cyanosis and her symptoms disappeared.

There is not the least doubt that the indiscreet use of some of the recently introduced synthetic drugs of aniline origin is attended with risk to life. I have made a series of experiments with blood serum adding to it such drugs as phenacetin, antipyrin, acetanilid, &c., and I find that some of these drugs have the power of altering the colour of blood serum from bright red to a reddish blue. They act as reducing agents; especially is this the case with phenacetin.

Cyanosis of intestinal origin.—In 1902 Professor B. J. Stokvis of Amsterdam drew attention to cyanosis of intestinal origin in a young soldier who had resided for three years in the Dutch Indies and who was suffering from an intractable diarrhœa, accompanied by marked cyanosis of the face, lips, fingers, and all the mucous membranes accessible to view. The heart, lungs, liver, and spleen were normal. The stools contained protozoa and myriads of flagellated organisms. In the urine a substance was present which when treated with phosphoric acid gave a ruby red colour and had the power of transforming oxyhæmoglobin into methæmoglobin. At the post-mortem examination the heart and lungs were found to be healthy. The mucous membrane of the intestine was at places ulcerated. Stokvis was of the opinion that the patient suffered from enterogenous cyanosis or an auto-intoxication of intestinal origin and that the blueness of the skin and mucous membranes was the result of the absorption of a substance generated in the intestinal canal, probably skatol or indol, and which was capable of transforming the oxyhæmoglobin of the blood into methæmoglobin. The finding at the necropsy rather confirmed than refuted this suggestion. The interesting point in Stokvis's patient was that both during repose and in moderate movements there was an absence of the phenomena of dyspnœa usually observed in cyanosis of a marked character. Five months afterwards this patient was readmitted into the infirmary with signs of intestinal occlusion and peritonitis. Laparotomy was performed, but the patient sank after the operation and at the necropsy were found the conditions just mentioned.

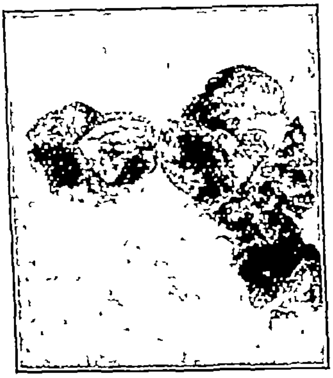
Stokvis's paper had not long been published when Talma related three cases of toxæmic cyanosis in all of which the blueness of the features was pronounced and the fingers were drum-stick in appearance; all the patients had diarrhœa. Spectroscopic examination of the blood revealed the presence of methæmoglobin which further special examination showed to be not circulating in the plasma but fixed in the red blood corpuscles. Talma attributed the cyanosis in his patients to intestinal absorption. In two patients, the details of whose illness were published by Hijmans van den Bergh, it was shown that while the cyanosis was of intestinal origin the conditions were more complicated than at first sight appeared, since in one of the men the cyanosis was not due to methæmoglobin but to the presence of a sulphur compound in the blood. One of the men was suffering from parenchymatous nephritis, œdema, and diarrhœa. Under milk diet the cyanosis disappeared but it returned when the man took meat. Stokvis found when the urine of his patient became alkaline after standing that it possessed the power of transforming the oxyhæmoglobin of blood serum into methæmoglobin but the real nature of the transforming agent he never got to know. It was suggested that it might have been a nitrite. Van den Bergh found in the stools of one of his patients a body which possessed the power of transforming hæmoglobin into methæmoglobin, while the blood and a mixture of fæcal matter and oxyhæmoglobin gave the spectrum of a body described by Harnack under the name of sulph-hæmoglobin. On analysing the blood, sulph-hæmoglobin was found in the plasma. Van den Bergh attributed the blood change to the presence of H_2SO which had been generated in the intestinal canal an which he had obtained in considerable quantity from bacteria isolated from the stools of his younger patient. The cyanosis therefore was the result of an auto-intoxication caused by the action of H_2S and H_2SO_4 combinations acting upon the blood and giving rise to a sulph-hæmoglobinæmia. The interesting point is that under treatment given to correct unhealthy conditions of the intestine, also under the influence of a surgical operation performed for atresia of the rectum, not only did the cyanosis disappear but the fingers and toes lost their drum-stick appearance and on spectroscopic examination of the blood both *in vivo* and *in vitro* no trace of sulph-hæmoglobin could be detected.

Notwithstanding this evidence the cyanosis of enterogenous origin is not always the result of the action of sulphur bodies upon the blood, for in other patients van den Bergh and Grutterink found nitrites in excess in the blood which along with Steensma they regarded as the agent which transformed oxyhæmoglobin into methæmoglobin. Admitting that nitrites have this power, the question is still unsolved as to whether the over-production of nitrites is the result of microbic activity in the intestine, the consequence of absorption through an abraded or ulcerated portion of the intestinal mucous membrane, or is due to loss of the power normally possessed by the organism of disposing of these bodies. Since there are several kinds of bacteria in the intestinal canal, of which the bacterium coli commune need alone be mentioned, capable of forming nitrites, there is much to support the theory of the microbial origin of the malady. Dr. G. A. Gibson and Dr. C. C. Douglas in THE LANCET of July 14th, 1906, p. 72, give the details of a case of microbic cyanosis in a woman who suffered from weakness, headache, and giddiness, whose lips, ears, and nails were dark blue, and in whom there was diarrhœa. The patient had been in the habit of taking drugs of the aniline order for headache. The blood taken from the ear was dark; it gave the spectrum of methæmoglobin and contained nitrites. On making an agar culture of the blood colonies of a micro-organism were found which closely resembled the colon bacillus. Gibson and Douglas regarded the illness as of intestinal origin, due to nitrites which were being constantly produced within the body, and acting upon the hæmoglobin converted the normal colouring of the blood into methæmoglobin—a substance in which although oxygen is present it is so firmly retained that it cannot be dissociated for the requirements of the body.

Cyanosis in aniline workers.—Aniline is largely used in the arts and manufactures. It is obtained by acting upon nitrobenzene with reducing agents. While visiting large aniline dyeworks in Manchester the men have complained to me of extreme headache and vertigo which they experience during the mixing of the compounds and the inhalation of dust from the dried goods. Workers in nitrobenzene factories become markedly cyanosed and pass dark-coloured urine. Animals to whom aniline has been given die in convulsions preceded by a fall in the body temperature. The blood, which becomes pitch-brown in colour, does not coagulate well. Its oxyhæmoglobin becomes converted into methæmoglobin. This transformation diminishes the quantity of oxygen in the blood. In the case of a dog whose blood contained 18·1 per cent. of oxygen and into whom there was injected 1·3 gramme of aniline chloride, the oxygen fell in one hour afterwards to 5·7 (Wertheimer and Meyer). The same results follow when aniline salts are given by the mouth. There are a change in the blood and a fall in its respiratory capacity. With the formation of methæmoglobin there is a reduction in the number of red blood corpuscles. These may fall to 2,000,000 per cubic millimetre of blood. Aniline vapours when inhaled produce symptoms more slowly than when the salts are ingested. In man the poison may enter by the skin, by the alimentary canal, or by the respiratory organs, and the symptoms are always the same—viz., nausea, vertigo, oppressive sleepiness, muscular pains, and a sense of weakness with tremors and anæsthesia. The skin becomes blue, the cyanosis being often very pronounced. The buccal mucous membrane, the gums, the conjunctivæ, the lobes of the ears, the face, the hands, and the feet show the discolouration best. The cyanosis is not due to venous stasis but depends upon a coloured substance in the blood, probably methæmoglobin. The men recover if they cease work for a time.

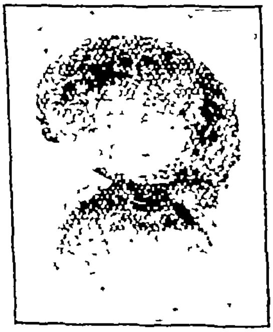
Local cyanosis or Raynaud's disease.—Hitherto we have time to time in the societies and in gynæcological literature. I have seen a case in which the left tube was removed for extra-uterine pregnancy and within a year the patient returned with a right gravid tube. Of triple ectopic pregnancy there are but two recorded cases, one by Sänger and the other by Krusen. Sänger's case consisted of a twin interstitial pregnancy with the third ovum situated in the region of the fimbriæ. On the other hand, Krusen's case was a triple tubal pregnancy with no involvement of the uterus. The specimen which I now describe was removed by Murdoch Cameron.

FIG. 4.



Twin tubal pregnancy.

FIG. 5.



The gravid tube and ovarian cyst from the case of bilateral ovarian cysts with an ectopic pregnancy in one tube.

The patient had a history of seven weeks' amenorrhœa and had been seized with sudden abdominal pain and when seen was evidently in grave peril. From the signs and symptoms one readily diagnosed rupture of a gravid right tube and as hæmorrhage was evidently continuing the abdomen was opened without delay. The peritoneal cavity contained a great quantity of blood which was for the most part in a fluid state. When the tube was brought into the wound one saw with what vigour bleeding could occur from a ruptured gravid tube. There was no rough, torn surface ploughed up by hæmorrhage, but it was simply indicated on the posterior wall by a spouting vessel and the tips of a group of villi projecting above the level of the peritoneal coat into the abdominal cavity. Bearing in mind Russell Andrews's instructions, the specimen was placed in a hardening solution before opening it transversely. Some time afterwards I gave the specimen to Dr. J. Shaw Dunn who was seeking sections of early placentas and on his cutting the tube across he found that it contained a perfect twin pregnancy. Unfortunately the knife in its course opened one amniotic sac and divided the cord, but nevertheless the specimen is very beautiful. The umbilical cords arose very close together and each fœtus had a complete amnion. In the stereoscopic photograph (Fig. 4) the fœtus to the left cannot be identified, as it is contained in the distended and unopened amnion which can be readily observed Immediately to the right of it the other collapsed amnion and divided cord can be seen hanging over the cut edge of the tube, while the little embryo (probably between five and six weeks) which was contained in it lies in the right part of the divided tube. The amniotic sacs had not yet come into close contact with the chorion, the inner surface of which is well seen in the portion of the tube to the right. No blood was contained between the amnion and chorion, so that the parts were in perfect preservation. Some dark pigmentation can be seen at the thickest portion of the tube indicating hæmorrhage in the neighbourhood of the placenta. As noted above, decidual cells were recognised microscopically at almost every part of the tube wall in proximity to the chorion with its projecting villi. It is true that as a rule they were few in number and were more conspicuous in the neighbourhood of the arteries, yet it is sufficient to suggest the presence of cells corresponding to the decidual cells of the reflexa in uterine pregnancy. The examination of sections taken from the left tube, which was slightly distended with blood, failed to discover decidual cells and the same statement applies to the examination of the unimplicated portion of the tube on the pregnant side. My friend Mr. W. Sampson Handley informs me that he had the opportunity of examining a twin ectopic pregnancy and in this case one fœtus was larger than the other, which shows that the appearance of an ectopic fœtus need not denote the exact duration of pregnancy.

Bilateral ovarian cysts with an extra-uterine pregnancy in one tube —I cannot say with what degree of frequency this occurs, but I think it must be very rare. The stereoscopic photograph (Fig. 5) shows very distinctly the large tubal hæmatocele above and the ovarian cyst underneath. A similar cyst was present in the other ovary.

Glasgow.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

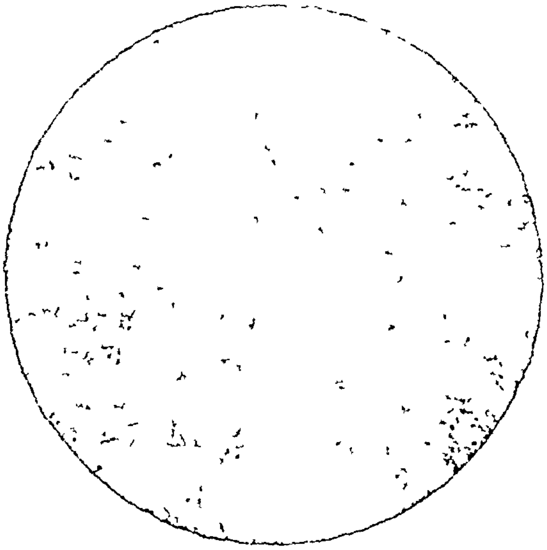
Origin and Differentiation of the Red Blood Corpuscles in Mammals —The Effects of a Meat Diet on Animals and on their Progeny.

A MEETING of this society was held on Dec. 18th, Dr. P. H. PYE-SMITH, the President, being in the chair.

Dr. C. E. WALKER read a paper on the Origin and Differentiation of the Red Blood Corpuscles in Mammals and said that he used the term leucocyte in a very wide sense, including under it all the wandering nucleated cells of the body. From a certain class of leucocyte found in the bone marrow of mammals he traced a gradual series of stages of degeneration in the nuclei, and the gradual appearance of hæmoglobin in the cytoplasm to cells with a relatively large, round, and almost homogeneous nucleus. During this process the nuclear membrane generally showed some small breaches through which some of the nuclear contents exuded into the cytoplasm. After this Dr. Walker described a large breach as occurring in the nuclear membrane of some of the cells, by which the nucleus was completely disintegrated. In other cells the nucleus apparently disintegrated by exudation through smaller breaches. The centrosomes were retained throughout in a certain proportion of the red corpuscles which had got rid of their nuclei in this manner. In the bone marrow a very large proportion of the red corpuscles contained remnants of the nucleus. A very small proportion retained these remnants after they had been thrown into the blood stream. Dr. Walker had observed the bodily ejection of the nucleus in these hæmoglobin-bearing cells, but only as a post-mortem phenomenon. He based his interpretation of the sequence of the changes which he described upon comparison with what happened in degenerating cells in the testes of various animals, and upon the changes which he had observed in the nucleated red corpuscles of amphibia, reptiles, and birds after removal from the body of the animal. In all these cases the exact sequence of events could be followed with the greatest certainty. He incidentally recorded the presence of two or more centrosomes, often hypertrophied, in practically all the red corpuscles of axolotl and other amphibia.

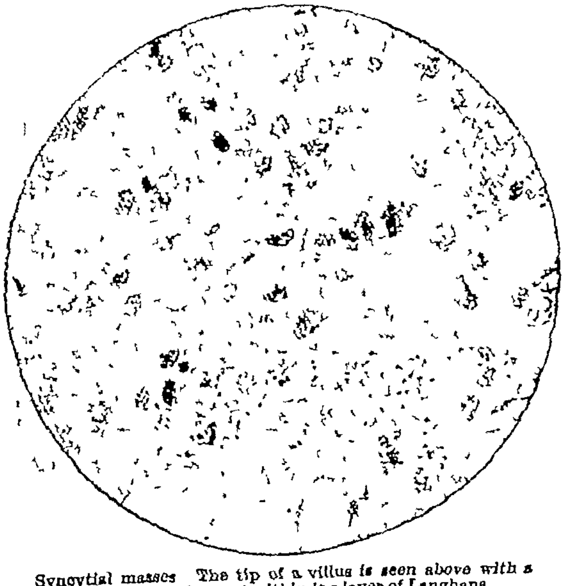
delicate finger-like processes (villi) protruding through the peritoneal covering. The blood-vessels are increased in size and in them many round cells may be present, and here, again, difficulties arise in determining their origin. Some consider them to be masses of Langhans's cells, but Fellner is of opinion that they have a subendothelial origin and are in fact decidual cells. The villi in a fresh specimen can be seen to possess a well-marked syncytium and Langhans's layer, while large syncytial masses with vacuolated protoplasm and many deeply stained nuclei can be easily detected remote or in close proximity to the villi (Fig. 2). Frequently a necrotic change is observed in some of the syncytial masses and villi. Œdema and hyaline degeneration may be seen in the tube wall and the connective tissue cells appear flattened and pulled out. A small amount of fibrinous material is *often observed separating* the tips of the villi from the muscular substance of the tube. Leucocytes may be seen in this *fibrinous layer which owes its origin to the* action of the villi on the tube wall. A few decidual cells may be seen where the *fibrinous* layer and tube wall are in contact (reflexa) (Fig. 3). A few decidual cells are scattered between *muscle bundles or underlie the peritoneum*. Although it is the rule to find few decidual cells, *yet in some specimens quite a clump of them* may be present.

FIG. 1.



Section taken at a point remote from the placenta to show the tip of a villus (below) and the decidual formation in the tubal wall *chiefly to the right of the artery.*

FIG. 2.

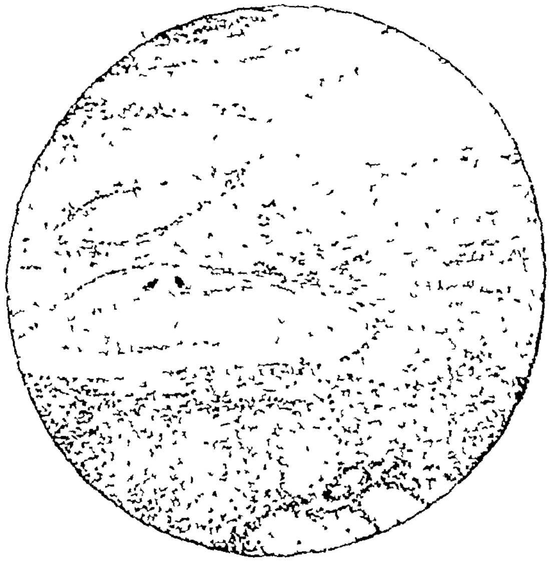


Synoytial masses The tip of a villus *is seen above* with a syncytial covering and within it a layer of Langhans.

It is a somewhat curious fact that decidual formation in the uterus is a constant accompaniment of extra-uterine pregnancy, but from the review of literature and the clinical observation of cases one cannot find any one circumstance which alone determines its expulsion. The cast may be contained in the uterus until the fœtus reaches full time and when false labour begins it is extruded; but even in full-time cases it may have been shed early in pregnancy. In a very complete cast in my possession rupture into the broad ligament had occurred at the eleventh week of *pregnancy* and it was not until intraperitoneal rupture had taken place *between the fifth and sixth month that the cast was expelled.* In another case the decidua, or a part of it, had been retained *while a mole occupied the right* tube. The most prominent symptom was a foul-smelling discharge which ceased after abdominal section and curettage; so it would appear that if saprogenic organisms gain entrance to a uterus containing a decidual cast an endometritis such as occurs in some incomplete abortions may result.

One of the chief objects of this paper, however, is to describe a twin pregnancy in one Fallopian tube. It is worthy of note that text-books dismiss the *consideration of such pregnancies* in a few words, and as no English text-book (as far as I know) gives a photograph, drawing, or *description* of such a specimen it would seem to rank as a rarity. I do not know of any such specimen being in the *museums of our colleges or schools.* Simultaneous pregnancy in the tube and uterus is the most common form of twin pregnancy. *Vilsin collected 68 cases* and *from his observations* he came to the conclusion that interruption of the extra-uterine pregnancy *had a greater effect* on the intra-uterine one than *vice versâ.* In 25 instances the extra-uterine fœtus reached maturity, a *striking contrast to* what one finds in ordinary ectopic gestation. This is not quite in agreement with the statistical *accounts of some* American *gynæcologists,* who find that the extra uterine gestation is usually interrupted at an early stage. *Engström is of opinion* that the large number of mature ectopic fœtuses was due to the accompanying *intra uterine pregnancy,* which induced a more copious blood supply than usual, together with a *hyperplasia* of the ectopic *sac. The two rarer* varieties of twin tubal pregnancy occur when two ova occupy the *same* tube, or when an ovum is *present in each tube. Burford* recently exhibited to the British Gynæcological Society a specimen of the latter variety.

FIG. 3.



Vessels and degenerate wall of tube above. *Tips of* the villus below. Fibrinous layer with leucocytes between the wall villus. The *decidual cells* are *best* seen to the extreme right on the upper margin of the fibrinous layer

Cases of repeated ectopic pregnancy are recorded from gland of the infant, aged 16 months, previously referred to, whose mother had been fed on an excessive meat diet. In this gland the intervesicular glandular tissue was much less in amount than in the glands of infants of the same age which were apparently normal. the general microscopic appearances of the gland vividly recalling the picture in some of the meat-fed animals. In conclusion, Dr. Chalmers Watson drew attention to the importance of the main facts which the investigation had elicited—viz., (1) that an excessive meat diet modifies the structure and function of some important organs, notably the reproductive glands, thyroid gland, and kidney; and (2) that some of these modifications were acquired by the offspring, in which they were present in an accentuated degree, and were in them associated with an increased susceptibility to disease. His clinical experience led him to the view that there was at the present time in this country an increased susceptibility to disease, which was the result in great part of changes in the tissues comparable in their nature and origin to those described in this communication.—Dr. E. I. SPRIGGS said that the specimens and slides shown by Dr. Chalmers Watson were strongly suggestive of the changes described by various workers as resulting from a diet deficient in lime. E. Voit, Seemann, and Baginsky fed young dogs on flesh, fat, and distilled water: the general metabolism appeared to be normal for some time and the animals put on weight; but ultimately they became weak, mentally slow, and changes occurred in the structure of the bones, characterised by increased vascularity, irregularity of the cartilage cells at the epiphyses, the formation of imperfect osteoid tissue, and a diminution of inorganic material. In pigeons Chossat in 1842 and others since had noted that on a diet poor in lime the feathers became disarranged, thirst and diarrhœa set in, and the animals died in eight or ten months with soft bones. In all these experiments control animals freely supplied with lime in a suitable form remained healthy. At the Zoological Gardens all the lion cubs died with deformities of the bones until bone dust and fat were added to their dietary. The deformities produced in the bones by a food poor in calcium seemed to differ to some degree in different animals. In small animals they were less marked and less constant than in large. He thought, therefore, that until suitable control experiments had been carried out Dr. Chalmers Watson's results might be interpreted as due, not to an excess of meat so much as to a deficiency of lime. A flesh diet would affect the metabolism of calcium in two ways—first, because it was a diet poor in lime, and secondly because the acids produced by the oxidation of the sulphur and phosphorus would be excreted in combination with bases furnished by the body, and of these bases calcium pre-existing in the body would form a part. With respect to the changes induced in the thyroid it was interesting to note that in districts where the water was rich in lime this organ was frequently affected with goitre. Some connexion had also been established between the generative organs and calcium metabolism for McCrudden had recently shown that in a case of osteomalacia the excess of the calcium output over the intake which was present was arrested, though only for a time, by excision of the ovaries.—Dr. W. HALE WHITE said that he not think that the changes described were of necessity due to the pure meat diet. He pointed out that many animals were purely carnivorous and yet never suffered from the effects produced by the pure meat diet in rats. Inference as to man could not be drawn from the results of those experiments in animals. The Esquimo was a pure meat eater and yet suffered from no such changes as described by Dr. Chalmers Watson or the race would have long ago become extinct. The absence of lime from the diet, as suggested by Dr. Spriggs, was, he thought, a very probable explanation of the changes produced. He thought that gout was very little dependent on animal food, for, as Dr. Chalmers Watson had stated, the consumption of meat had increased during the past 50 years from 3 pounds a head to 50 pounds a head and yet acute gout had steadily diminished. —Mr. WALTER EDMUNDS said that he had tried the experiment of feeding white rats on a pure meat diet. He found that they did not take the diet well unless mixed with a small quantity of cooked meat. Rats fed in this way were very thirsty and drank much more than rats fed on a mixed diet. The effects produced were that the growth was retarded, the hair became rough and dishevelled, the rats failed to clean themselves, and became stupid. The general nutrition did not suffer and when the animals were killed he had failed to find any change in the thyroid.—Dr. CHALMERS WATSON, in reply, stated that he fully shared the view expressed by some of the speakers that the deficiency of calcium in the meat diet and also the acid nature of the food were important factors in the production of some of the appearances described.

WIGAN MEDICAL SOCIETY.—A meeting of this society was held on Dec. 13th.—Dr. Ferdinand Rees, the President, who was in the chair, gave his presidential address on "Rheumatoid Arthritis." Among the cases exhibited were the following. Dr. W. Readman showed for Dr. R. P. White a patient with Dextrocardia. Mr. W. Berry showed a patient from whom he had removed by amputation at the hip joint a large Sarcoma of the Lower End of the Femur. The specimen was shown.

Reviews and Notices of Books.

A Treatise on the Motor Apparatus of the Eyes, Embracing an Exposition of the Anomalies of the Ocular Adjustments and their Treatment, with the Anatomy and Physiology of the Muscles and their Accessories. By GEORGE T. STEVENS, M.D., Ph.D. Illustrated with 184 engravings, some in colours. Philadelphia: F. A. Davis Company. 1906. Pp. 498. Price $4.50 net.

WHEN the *cacoethes scribendi* attacks an ophthalmologist the result is usually either a manual on diseases of the eye or an elementary book on refraction, or if higher flights are attempted it takes the form of a disquisition on squint or on colour vision. The book under review belongs to the latter category. The introduction is devoted to some interesting historical notes on strabismus and other anomalies of the eye muscles. The treatment of squint suggested by Paulus Ægineta in the seventh century of wearing a mask with an opening immediately in front of each eye persists in modified form amongst the common people to the present day. Erasmus Darwin advised a piece of gauze stretched on a circle of whalebone before the better eye, so as to reduce its vision to a similar degree of imperfection with the other. The author has rescued a famous charlatan, Dr. John Taylor, self-styled oculist to King George II. of England, from oblivion. There seems to be some evidence that he instituted the operation of tenotomy.

Parts I. and II., comprising 186 pages, are devoted to the anatomy and physiology of the extrinsic motor mechanism of the eyes. The facts and current theories are viewed from the peculiar standpoint of the author. There can be no doubt that he has given much time and careful thought to their consideration, but it would be unwise to accept his deductions unreservedly. They are founded upon opinions which are not fully justified by the theoretical and experimental evidence brought forward in their favour. We would warn those who are not conversant with the work of von Helmholtz, Hering, and others in this thorny path to walk warily under the guidance of the author.

Part III. deals with "Anomalous Conditions of the Motor Muscles of the Eyes Consistent with the Physiological State." (As the inverted commas indicate, the author is responsible for this extraordinary heading.) Dr. Stevens has introduced several useful terms for the different forms of latent strabismus which have long been accepted and are now current amongst ophthalmologists—e.g., orthophoria, heterophoria, esophoria, exophoria, hyperphoria. Euthyphoria is the term used for that passive adjustment of the normal plane of vision such that this visual plane is coincident with the plane of the horizon; the latent deviations from euthyphoria are called ano- or kato-phoria, the manifest deviations ano- or kato-tropia. Without stopping to criticise the etymology of these terms we consider that the classification

Dr. D. CHALMERS WATSON read a paper on the Effects of a Meat Diet on Animals and on their Progeny, and said that the following facts had suggested the research:—First, that in the course of an experimental investigation on gout in fowls the use of an excessive meat diet had induced a striking hypertrophy of the thyroid and parathyroid glands; and, further, that these changes were not present in the glands of one fowl, similarly fed, which was proved to be tuberculous at the *post-mortem* examination. Secondly, the correlation of these facts in the mind of Dr. Chalmers Watson with a well-recognised clinical fact in the dietetic treatment of two diseases—gout and tuberculosis—an excessive meat diet being injurious in the former and beneficial in the latter disease. This indicated that the tissues of a gouty subject reacted to a meat diet in a manner different from the tissues of a tuberculous subject and suggested that an experimental investigation might yield facts which would elucidate the nature of both of these reactions. Thirdly, the present unsatisfactory state of our knowledge of the dietetic treatment of chronic diseases was cited as an additional reason for experimental observations carried out on lower animals. It was probably not too much to say that in the treatment of many diseases in which meat was restricted in amount no more scientific explanation could be advanced than was involved in the vague and general statement that meat was a "stimulating" food. One object of this research was to ascertain so far as possible from observations on lower animals which, if any, organs were "stimulated" by an excessive meat diet. An additional reason for an investigation of this kind was to be found in the view held by not a few medical men that there was an important etiological relationship between the increased consumption of animal food—from three pounds per head per annum to over 50 pounds per head per annum in the past 50 years—and the increasing incidence of certain diseases. The investigation, which was still in progress, was being carried out in the Physiological Laboratory of the University of Edinburgh and in its conduct Dr. Chalmers Watson had secured the coöperation of a number of investigators to whose work reference was made. Some results had already been published either in the form of preliminary communications or of completed papers; after a reference to the work already published he recorded in detail the influence of an excessive meat diet on the thyroid gland. Rats were employed as the subjects of experiment and the observations were extended to more than one generation. Bread-and-milk was given as a control diet, this being the food in routine use in the laboratory prior to the special diet investigation. A bread-and-milk diet was regarded as a physiological one for tame rats, since, under its use, the young grew rapidly, the young and adults alike appeared to be in perfect health, and the rate of production was very great. The influence of an excessive meat diet on the growth and nutrition of rats of different ages having been fully described in a former paper, little attention was directed to this point beyond describing and illustrating so far as possible the following three points: (*a*) The retardation of growth induced by the use of a meat diet when begun in very early life; (*b*) the prejudicial effects of a meat *régime* on the reproductive powers; and (*c*) the high mortality in early life in the second generation of meat-fed subjects. In considering the histological appearances observed in the tissues of meat-fed animals it was important to bear in mind that in many of the animals there was no external indication of disturbed nutrition. Dealing first with the reproductive system Dr. Chalmers Watson demonstrated from the results obtained by Dr. C. B. Paul that a meat diet markedly arrested the growth of the male reproductive organs when the faulty feeding was begun when the animals were weaned. Attention was then directed to the observations of Dr. B. P. Watson, who had extended and amplified Dr. Chalmers Watson's original observations on the effect of the diet on fertility and lactation. Dr. B. P. Watson's observations proved (1) that a meat diet was decidedly prejudicial to the occurrence of pregnancy when the diet was begun when the animals were from two to four months old, and (2) that, when they had young, they were less able to suckle them owing to the smaller development of mammary tissue. The results of Dr. Malcolm Campbell's observations on the minute structure of the uterus were then alluded to and demonstrated. That author had shown that the use of an excessive meat diet in very young animals induced alterations in the minute structure of the uterine mucous membrane of the nature of a fibrosis. This change was, however, not peculiar to a meat diet, but was also observed in animals fed on other unphysiological diets, such as rice or porridge. The effects of a meat diet on the osseous system of the progeny of meat-fed rats were then considered. The bones were unduly soft and very vascular; many subjects showed marked curving of the bones with curvature of the spine: in about 15 per cent. of the series there were small whitish nodules in the bony parts of the ribs. Microscopically there was imperfect bone formation with great increase in the size of the medullary cavity, especially in the cranial bones, with proliferation of the marrow cells. Dr. Chalmers Watson also demonstrated the occurrence of similar changes in the bones of an infant, aged 16 months, suffering from an obscure disease, whose mother was tuberculous and had been treated for a prolonged period prior to and during gestation with a diet containing a great excess of meat. Mention was made of the results of the investigations of Mr. G. W. Watson, L.D.S., and Mr. J. H. Gibbs, who found that, notwithstanding the very imperfect state of development of the cranial bones, the teeth showed no noteworthy histological change. Reference was then made to the observations of Dr. Chalmers Watson in conjunction with Dr. G. Lyon, which were not yet published and which showed that there was a hypertrophy of the kidneys in meat-fed animals, and also that a meat diet threw a marked strain on the secreting cells of the kidney, this being indicated by the alteration in the size and arrangement of the granules of the cells, as revealed by special staining methods. With regard to the thyroid gland Dr. Chalmers Watson referred to a preliminary communication published by him in the Proceedings of the Physiological Society in 1904, in which it was shown that the use of a meat diet in young rats induced as a rule distinct histological changes in the thyroid gland (10 out of 12 subjects). In the past two years these observations had been extended, and particular attention had been devoted to the histological appearances of the gland in the progeny of rats that had been fed on a meat diet. Attention had also been directed to the appearances of the gland during lactation and to its normal structure as seen in wild rats. The glands of 65 animals—second generation of meat-fed rats—were examined, with 50 control bread-and-milk fed subjects. The ages varied from one day to three months, 35 of the series being under three weeks old and unweaned at the time of death. The majority of the meat-fed rats died; the others were killed. As an additional control for the animals which succumbed, a series of 16 young animals of similar age which died as a result of feeding on other unphysiological diets (rice and porridge) were employed. The histological appearances of the thyroid gland of the meat-fed rats differed from those of the controls. In 10 out of the 65 the histological changes were slight and did not exceed those occasionally present in bread-and-milk fed animals. The remainder showed marked changes, which could be classified in the following three groups:—1. Great congestion of the gland with absence of colloid and little or no attempt at vesicle formation, the gland being in an embryonic state. This appearance was only observed in animals which died in the first few weeks; it was observed in 12 of the series. 2. An increase in the amount of the colloid, far in excess of that obtaining in bread-and-milk fed subjects, with thinning of the walls of the vesicles from pressure. This appearance was most pronounced in animals which had apparently adapted themselves to the diet, and whose weight and general nutrition were above the average of meat-fed subjects. This appearance was present in 18 of the series. 3. A diminution or entire absence of colloid with the degeneration and shedding of the secreting cells. This condition was specially marked in animals the general nutrition of which was obviously defective. The majority of these animals died. This series included 26 animals. The result of this investigation confirmed Dr. Chalmers Watson's earlier observations in showing that an excessive meat diet induces structural changes in the thyroid gland. The appearances proved, to his satisfaction, that a meat diet at first stimulated and later exhausted the functional activity of the gland. Special attention was directed to the modification in structure acquired by the young of the animals fed on an excessive meat diet. The opinion was expressed that conditions comparable to those described would be found if looked for in thyroid glands of children, and that many symptoms of disease in young children were associated with, and dependent on, an impaired functional activity of the thyroid gland which the child had "inherited" from his parents. Some evidence in support of this view was advanced in the form of a section of the thyroid

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THE ANNUS MEDICUS 1906.

WE publish, in accordance with our usual custom in the last number of the year, a summarised account of the more outstanding medical events of the past twelve months; and, as on previous occasions, we have to confess our knowledge that such a compilation must make rather bald reading. We can only take notice, as far as medical science is concerned, of what appears to us to be the salient features of progress, and even then we must often mention these without making much attempt to appreciate their real significance. For this, indeed, is more likely to become apparent after the lapse of some time, when extended observation and practical trial have supplied the necessary evidence. Year by year, as medical science enlarges her boundaries, it becomes more impossible within the scope of one article even to mention the facts and developments which rightly fall under the comprehensive title of the *Annus Medicus.* Every year the inroads of medicine upon psychology, upon chemistry, and upon all branches of physics become more penetrating, and every year the invader makes new annexations. We beg our readers to look upon the summary which now follows as a chapter in a serial and abbreviated history, the perusal of which will remind them where further details upon any point of particular interest may be found, while keeping the general story of progress in their minds.

MEDICINE AND THERAPEUTICS.

Tuberculosis.

The interest which the KING takes in the treatment of tuberculosis again assumed a practical form when on June 13th, accompanied by the QUEEN, he visited the King Edward VII. Sanatorium and performed the opening ceremony. A full description of the buildings has already appeared in our columns. In addition to the primary object of the institution—the treatment of certain classes of the community suffering from tuberculosis who are not subjects for gratuitous relief at the hospitals—it is intended that special attention shall be given to research work. The munificent donation of £10,000 recently given by Mr. and Mrs. BISCHOFFSHEIM for assisting this purpose will enable the Advisory Committee to procure all that is necessary in order to insure the work being satisfactorily carried out.

The question of introducing notification of pulmonary tuberculosis, either voluntary or compulsory, has been much discussed. In certain towns and boroughs modified notification has been adopted, but sufficient time has not yet elapsed to be able to judge of the success or non-success of the measure. Theoretically, compulsory notification, from which follows compulsory disinfection, should be a great power in aiding to stamp out the disease, but, as we have pointed out, there are differences in opinion as to the procedure which should be adopted. There are also numerous practical difficulties which will have to be overcome—for instance, in the matter of diagnosis. In this respect we must give our support to those observers who maintain that a distinction should be drawn between "open" and "closed" tuberculosis, the former class being a source of danger to the public, whilst the latter is practically devoid of risk of infection.

The sanatorium treatment of tuberculosis continues to yield satisfactory results. In THE LANCET of Jan. 6th, p. 1, we published several essays by recognised authorities on the treatment of pulmonary tuberculosis, who were unanimous in their opinion as to the beneficial results which might be obtained by this method when the patients came under observation in an early stage of the disease.

In regard to the after-care and possibilities of occupation for the tuberculous patient of the operative classes when discharged from a sanatorium the view formerly held that an open-air life was essential was challenged by Dr. M. S. PATERSON and Dr. F. C. SHRUBSALL in an article which we published in our columns on July 28th, p. 217. They maintained that the advice often given to such patients to change their occupation, if it was an indoor one, though eminently sound in theory, was impracticable. The conclusions arrived at by them was that on his discharge from a sanatorium a patient should so far as possible return to his own trade, whilst those patients without trades should be largely governed in their choice of an occupation by their wage-earning capacity thereat. Reference was made to the statistics of German sanatoriums, which seem to prove that patients discharged with the disease in a quiescent or arrested state are capable of returning to their former occupations for periods of three, four, or more years.

M. LANNELONGUE read a paper in June at a meeting of the Academy of Sciences giving an account of some investigations which he had made in association with Dr. ACHARD and Dr. GAILLARD in the serum treatment of tuberculosis. These observers had investigated the effect on guinea-pigs of a toxin extracted from the bacillus as it occurred in the human subject. The results were encouraging. The control animals showed a mortality of 90 per cent. when injected with tuberculosis, whilst those treated with the antituberculous serum had a mortality of only 40 per cent. The value of the tuberculo-opsonic index in the diagnosis and treatment of tuberculous infections has been further investigated, but no definite pronouncement has yet been made. Mr. W. WATSON CHEYNE, writing in our columns (Jan. 13th, p. 78), while recognising the originality and the brilliance of the work carried out by Sir A. E. WRIGHT, regarded many of his contentions as theoretical and not proven. He deprecated any intemperance in applying the principles of inoculation to the exclusion of other well-tried methods, both surgical and hygienic, as likely to lead to disappointment and once again to cast discredit on tuberculin as a remedy. He thought that other as yet incompletely elucidated factors in the production and spread of local bacterial diseases would have to be taken into consideration and that, therefore, an exaggeration of the importance of the opsonic factor in the protective mechanism might tend to hinder rather than to promote progress. At present the method that has to be employed in estimating the opsonic index is a prolonged one. If some less laborious means of judging the protective power and its variations can be discovered, the usefulness of the procedure will be considerably increased.

Typhoid Fever.

The committee appointed by the Army Council to investigate the practical, prophylatic, and therapeutic value of current methods of immunisation against typhoid fever has issued an interim report setting forth the opinions arrived at after examining the work of those appointed to carry out the necessary investigations and suggesting propositions as to further research. The committee stated that having carefully is of little value. We know of no means whereby the absolutely normal position of the horizontal planes of the eyes, with the extrinsic muscles exerting only their normal tone, can be determined. The author fixes the primary position of the head with his craniostat, in which the skull is considered to be vertical when the glabella and the concavity just below the nasal spine are in the same vertical line. Such a criterion is obviously quite arbitrary and fails entirely to justify the enormous superstructure which the author has erected upon it. Dr. Stevens attaches great importance to "declinations" as a cause, if not the only cause, of heterophoria and even of manifest squint. It is repeatedly impressed upon the reader that these are not torsions in the ordinary sense of the term, though it is difficult to distinguish between them. Indeed, no authoritative definition of declinations is given and it is almost impossible to arrive at any clear idea of their nature from the often discordant statements which are made.

The treatment of the muscular anomalies is partly orthoptic and partly by operation. The ordinary method of performing tenotomy is condemned and in all cases partial or "graduated" tenotomies or advancements ("contractions") are advocated. These are directed towards curing the declinations rather than the squint. Leaving out of consideration this hypothetical substratum, which, indeed, has relatively recently become prominent in the author's own writings, we must confess to absolute incredulity as to the beneficial effects of partial tenotomies for the cure of manifest squints. Tenotomy, as properly performed to-day, is capable of producing a definite result. Attempts to produce a greater result are fraught with danger, as was fully demonstrated in the early days of the use of the operation. Attempts to obtain smaller results by partial division of the tendons are for the most part futile and have been abandoned by English surgeons. It is possible that these partial operations may rarely have a *raison d'etre* but the author's position on the subject is wholly untenable. It is obvious from Dr. Stevens's own words that his opinions have been in a state of flux ever since he commenced his observations. We have no fault to find with the receptiveness of his mind to new facts and new impressions. We think, however, that it would have been wiser if he had crystallised his ideas more thoroughly before assuming the dogmatism of a teacher.

JOURNALS AND MAGAZINES.

Annals of Otology, Rhinology, and Laryngology. September, 1906. Vol. XV., No. 3.—The contents of this number are of considerable interest. It contains two papers on the Results Obtained from the Radical Operation in Chronic Purulent Otitis Media by McEwen-Smith and Dench and an interesting and instructive paper by Hill Hastings on Ocular Symptoms of Nasal Origin, illustrated by cases which have come under the author's observation. This is a paper which deserves attention, especially as regards the valuable information to be derived from orbital pain with sphenoidal sinus involvement, as the cases have been very carefully worked out. T. Ball contributes a paper on Herpes Zoster Auris; J. E. Rhodes one on Sarcoma of the Naso-Pharynx treated by the Injection of Adrenalin; H. B. Ellis one on a Case of Infective Sigmoid Sinus Thrombosis; W. H. Roberts describes Three Fatal Cases of Meningitis, with Peculiar Ear Symptoms. These cases are of considerable interest and will well repay perusal. The next paper is by James A. Babbitt on the Nasal Turbinate as a Vaso-Motor Index. T. J. Harris contributes a paper on Post-Operative Meningitis. There is nothing particularly new in this paper, as most of the remarks are derived from a paper by Zeroni in the Archiv für Ohrenheilkunde. Next comes a paper by W. S. Bryant, entitled the Modified Blood Clot in Mastoid Surgery. This is a method which has not found favour in this country and we imagine will not do so. There are three papers on Tuberculous Disease of the Upper Air Passages by W. C. Bain, W. Freudenthal, and Robert Levy of Colorado. The last is by far the most interesting and complete. There is also a long paper by Léon du Lafe on the Morphology and Embryology of the Nasal Fossa in Vertebrates translated by H. W. Lowe. It is a most valuable paper, describing the development of the nasal fossæ, and is illustrated by some excellent drawings.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., with the coöperation of ADAM SEDGWICK, F.R.S., and SYDNEY J. HICKSON, F.R.S. With lithographic plates and text figures. New Series, No. 200. November, 1906. London: J. and A. Churchill. Price 10*s.* net.—The articles contained in this number of the journal are: 1. On the Structure of the Nephridia of Dinophilus, by Cresswell Shearer of Trinity College, Cambridge, with two plates. The nephridia in the male consist of four pairs, the first pair being placed very slightly behind the second preoral ring of cilia, and the fourth lying at the posterior end of the stomach. The ducts run outwards and round the segments to open on the ventral surface near the median line of the following segment as in annelids. Their closed internal ends bearing the solenocytes (elongated nucleated cells terminating in a flagellum directed outwards) project slightly into the irregular space surrounding the gut which cannot be regarded as a cœlomic cavity, since the spermatozoa are inclosed in an entirely different set of spaces as well as by its being traversed in all directions by muscle strands and cells which denote its primitive blastocœlic nature. The details of the nephridial structure are fully given. 2. Contributions to our Knowledge of the Anatomy of Notoryctes typhlops Stirling, a Marsupial Mole, with a plate; Part III., the Eye, by Georgina Sweet, D.Sc. Melbourne University. Part I. of these contributions dealing with the Nose and Jacobson's Organ and Part II. dealing with Blood Vascular System were published in the *Proceedings of the Royal Society of Victoria* in 1904. Miss Sweet shows that the eye of this animal has undergone great degeneration which she attributes to the constant irritation to which it was liable owing to the burrowing of the animal in a sandy soil, to disuse, and to the great development of gland structures in the eye and nasal regions. As in some measure a compensation for the loss of sight the animal is highly sensitive to sound. 3. Structure and Origin of Canker of the Apple Tree, by James E. Bloomfield, M.D. Oxon., with a plate. Dr. Bloomfield shows that this form of disease in the apple tree is produced by the pricks of the woolly aphis Schizoneura lanigera, which lead to the enlargement and multiplication of the cambium cells. 4. Review of Dr. Richard Goldschmidt's Monograph of Amphioxides, by A. Willey, F.R.S., D.Sc. Dr. Goldschmidt is of opinion that the developmental tendency leads from amphioxides to amphioxus and beyond this in a straight line to the ascidians, the organisation of which appears to him to have arisen by degeneration from the acrania. In opposition to this theory Dr. Willey believes that the ascidians have degenerated from an extinct cœlomata perennichordate type but not from a cephalochordate type. 5. The Modification of the Sexual Characters of the Hermit Crab caused by the Parasite Peltogaster (Castration Parasitaire of Giard), by F. A. Potts, B.A., of Cambridge, with two plates. 6. On the Medusa of Microhydra Ryderi and on the Known Forms of Medusa inhabiting Fresh Water, by Edward Potts of Philadelphia, U.S.A., with two plates. 7. On the Fresh-water Medusa Liberated by Microhydra Ryderi, Potts, and a Comparison with Limnocodium, by Edward T. Browne, B.A., with a plate. This number of the *Journal* contains the title page and table of contents of the fiftieth volume.

prognosis when infection has taken place, render the establishment of effective preventive measures peculiarly urgent. Dr. J. L. Todd, director of the Runcorn Research Laboratories of the Liverpool School of Tropical Medicine, discussed in our columns (July 7th, p. 6) the probable causes of the spread of the disease and offered practical suggestions for checking that advance. He concluded that the enormous spread and great increase of sleeping sickness in the Congo basin have been due in great measure to the increase in travel following the opening up of the country. He also pointed out that patients suffering from trypanosomiasis, though apparently in good health, might be detected by enlargement of the glands, and he urged, therefore, that the advance of the disease might be checked by the serious application of quarantine measures, dependent for their efficiency upon palpation of the cervical glands. To carry out this measure he suggested the establishment of medical posts of inspection along the trade routes leading from infected to uninfected districts and the removal of infected persons from posts in uninfected districts to places already infected. The danger to Europeans engaged in these districts is one to be borne in mind, since they possess no immunity to the disease other than that offered by the greater amount of clothing worn. It is to be hoped that the authorities will carry out without delay some such measures as those outlined by Dr. Todd.

Leprosy.

Dr. R. S. Black, in a paper read before the Physiological Section of the British Medical Association on Leprosy in Cape Colony,[1] gave an admirable summary of the present state of knowledge of that disease. He pointed out that the problems connected with it were not only pathological; there were administrative, legal, and even moral questions which arose out of its existence which needed to be handled with great circumspection, moderation, and sagacity. He thought that all evidence tended to show that the disease began (how long after the implantation of the bacilli could not at present with certainty be known) as a small collection of round cells under the mucosa of some part of the nasal cavity. With regard to treatment, he had experienced very much better results with chaulmoogra oil than with any other drug. He concluded that until further light could be thrown on the pathology and treatment of leprosy the disease must be combated chiefly by segregation and isolation, making the hardships to the patients unavoidable in such a procedure as tolerable as possible. He urged that a more sustained and continuous effort should be made on behalf of the sufferers in the way of experimental and scientific research in the well-organised asylums which were so suitable for a regulated plan of work. The effort should be made in conjunction with a scientific organisation, such as one of the schools of tropical medicine. In coöperation with the Government these schools might periodically send out to the asylums a research scholar or scholars who would, under the direction of the scientific staff of the school, have a definite objective mapped out for them to attain, if possible, during the period of research.

Stokes-Adams Disease.

Few diseases offer such a field for the application of known physiological principles to pathological phenomena as that to which has been given the name of Stokes-Adams disease. The striking character of its symptoms—slow pulse with syncopal, apoplectiform, or epileptiform attacks and the associated phenomena of Cheyne-Stokes breathing, angina pectoris, and cardiac arrest—combine to give it a peculiar interest. Dr. A. Keith and Mr. M. W. Flack contributed an interesting article to our columns on the auriculo-ventricular bundle of the human heart (August 11th, p. 359). They minutely described the course and constitution of the bundle and discussed its development. Dr. John Hay and Dr. Stuart A. Moore have applied these physiological considerations to the pathology of Stokes-Adams disease. Dr. Hay made an ingenious and careful comparison of the radial and jugular pulses and his results suggest that a disturbance of rhythm may be caused at one time by a block in the conductivity of the heart muscle and at another by a disturbance in its excitability. In a case of Stokes-Adams disease described by Dr. Hay and Dr. Moore the syncopal, epileptiform, and apoplectiform seizures were very marked. The case proved fatal and the necropsy revealed partial obliteration of the auriculo-ventricular bundle; this would cause a persistent depression of conductivity. This was proved by numerous tracings which revealed marked variations in conductivity, all grades from normal conduction to complete heart block being in evidence at one or another time. The phenomenon of heart block has long been known to physiologists, although their explanation that it arises as the consequence of interference with the normal conduction of the wave of contraction is more recent.

Diabetes.

Various theories as to the pathology of diabetes have been expressed by competent observers from time to time, but even now no unanimity of opinion can be said to exist. The kidney, the liver, and the pancreas have in turn been considered to be the organ in which the disease originated, but most authorities now point to the nervous system as playing the most important rôle in the production of glycosuria. In a paper which was read before the International Congress of Medicine at Lisbon Dr. F. W. Pavy adduced some strong arguments in favour of the vaso-motor system supplying the chylopoietic viscera being mainly involved. He pointed out that it was in connexion with the neuropathic disposition that diabetes was most frequently found to exist, and the more sensitive and highly strung the nerve organisation the more intense was the form that the disease assumed. He further remarked that a cerebral influence over the vaso-motor state was what was suggested as constituting the link between the brain and diabetes. Dr. Pavy contended from physiological considerations that a chain of connexion could be established rendering it possible for diabetes to constitute a disease belonging to the neurosis class, the difference in its case being the implication of a particular area belonging to the vaso-motor system instead of structures connected with voluntary motion, sensation, and the mind.

Lectures of the Year.

We published in The Lancet as usual the official lectures delivered before the Royal College of Physicians of London. The Lumleian lectures were delivered by Dr. David Ferrier on Tabes Dorsalis. He dwelt in great detail on the pathology of the disease and also discussed its causation. He considered that the most probable pathogeny of the tabetic degeneration was that it was the result of a toxin generated or conditioned by the syphilitic virus. He admitted, however, that at present this was a pure hypothesis. In view, however, of the brilliant therapeutic triumphs of the present day Dr. Ferrier thought that it was not too optimistic to hope that with the progress of biochemistry the source of the tabetic toxin, its nature and the means of neutralising it and staying its ravages might yet be discovered. Dr. H. Batty Shaw was the Goulstonian lecturer, selecting as his subject Auto-intoxication, its Relation to Certain Disturbances of Blood Pressure. A considerable portion of the lecture was concerned with the facts which had been elicited by the use of the sphygmomanometer in health and disease. Dr. Shaw detailed the results of experiments which he himself had made on the effects on the blood pressure of the intravenous injection of extracts of fresh organs. He showed that a rise of blood pressure occurred considered the whole of the statistical material it was satisfied that the records which were available up to date furnished proof that the practice of antityphoid inoculations in the army had resulted in a substantial reduction in the incidence and death-rate of enteric fever among the inoculated. The committee further stated that statistical records supported the scientific observations that the protective substances which were developed in the human organism after antityphoid inoculation were identical with those developed in the course of an attack of typhoid fever and that animals could be rendered resistant to typhoid fever by the same process of inoculation as that used in man. As a consequence of these conclusions the committee recommended that the practice of voluntary inoculation against typhoid fever in the army should be renewed and that ample provision should be made for carrying out further investigations. When the enormous losses which this disease causes in the army both in war and peace are taken into consideration—for instance, the deaths in India alone amount to half a battalion a year—the importance of the investigation of prophylactic measures becomes at once apparent and the hope may be expressed that the Army Council will put the recommendations of the committee into effect as soon as the necessary organisation can be brought into being.

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[1] The Lancet, Oct. 20th, 1906, p. 1064.

Scarlet Fever.

Another report on "return" cases of scarlet fever has been drawn up for the Metropolitan Asylums Board. Last year Dr. A. G. R. Cameron was the author of a similar report, his conclusions being based on returns extending over a period of 13 months. This year (1906) Dr. F. M. Turner is the author and the figures for three years have been analysed. Unfortunately, the practical conclusions reached are no more encouraging than those arrived at by Dr. Cameron; indeed, the results of the second investigation neutralise some of the conclusions which the earlier series of figures appeared to warrant. Among the principal points emphasised in Dr. Cameron's report were the following two: that a large proportion of so-called "return" cases were in reality the result of mere coincidence and that in the majority of cases in which infection had really been conveyed by the discharged patient rhinorrhœa had been a feature of his attack. Dr. Turner carefully tabulated statistics of 1000 consecutive cases at the Eastern Hospital and found that while among 397 cases without complications of any kind 3·27 per cent. caused infection on returning to their homes, among 343 cases with rhinorrhœa only 2·62 per cent. proved infectious. Among 256 cases with other complications only 1·54 per cent. caused further outbreaks. A possible fallacy in these results as compared with those of Dr. Cameron, however, may be found in the fact that 180 patients who exhibited rhinorrhœa were detained in hospital over ten weeks, by which time the nasal infection had very probably become attenuated. Another feature in Dr. Turner's report is the practical contradiction of Dr. Cameron's contention that a large number of "return" cases of scarlet fever are pure coincidences. Dr. Turner's report agrees with that of Dr. Cameron in refuting the ancient belief in the special contagiousness of the desquamation stage of the disease. Further investigation is obviously necessary before the true explanation of "return" cases of scarlet fever can be arrived at.

Epidemic Cerebro-spinal Meningitis.

An outbreak of this disease, which occurred in and around Glasgow in the early months of the year, afforded opportunities for the study of its clinical and bacteriological characteristics. We published a paper by Dr. William Wright (senior assistant medical officer of health of Glasgow) and Dr. W. Archibald (junior assistant medical officer of health of Glasgow) detailing the course of some of the cases. Dr. J. T. Wilson (medical officer of the county of Lanark) also published a valuable report of the cases occurring in four localities within four miles of the city of Glasgow. A report on the bacteriological work performed in connexion with the cases was furnished by Dr. A. Ledingham and the information contained in these reports may be briefly summarised thus: a few fatal cases of cerebro-spinal meningitis occurred annually during the three preceding years 1903–05. During the current year (April to July) 25 cases were notified by medical practitioners, but in six of these cases the diagnosis was doubtful. Of the 19 undoubted cases of cerebro-spinal meningitis only three survived and two of these were very ill when the report was issued, thus demonstrating the dangerous nature of the malady. The bacteriological results were interesting, but there is need of further research and inquiry as to how the disease is spread. From 11 patients spinal fluid was obtained and the meningococcus was recovered in ten, while in the other case the organism seemed to be the pneumococcus. In three other instances the nasal mucus was examined but showed the meningococcus in one only. The most prominent clinical symptoms were the sudden onset of severe headache with vomiting. The duration of fatal illness was from one to four days in eight cases and from seven to 14 in seven cases. A curative serum was tried in one case but seemed to produce no beneficial effects.

Yellow Fever.

Sir Rubert W. Boyce visited British Honduras in the autumn of 1905 whilst yellow fever was prevalent and subsequently issued a report to the Government of that colony. Starting with the definite knowledge (proved by other observers) that yellow fever is conveyed by the stegomyia fasciata mosquito, Sir Rubert Boyce proceeded to show the distribution of the stegomyia, its constant presence in all districts in which the fever prevails, and the sanitary conditions which obtain and serve as factors in favouring the continuance of this species of mosquito. The stegomyia fasciata was shown to be essentially a "domestic" mosquito; its larvæ were found in the receptacles used for the storage of water near houses and in the rain water collected in tins, bottles, or crockery thrown out from the houses and allowed to lie about the gardens, yards, or outhouses, where it flourished to the exclusion of other mosquitoes. It is plain, therefore, that for a successful fight against yellow fever a controlled and protected water-supply is necessary; all vats, tanks, and barrels must be screened permanently with wire gauze or temporarily with cheese cloth. The early recognition of the disease and its prompt notification were other points upon which great stress was laid. In British Honduras the stegomyia fasciata can live all the year round owing to the country being within the zone of the permanent distribution of this mosquito; thus there is no season during which yellow fever may not prevail. Constant vigilance is therefore necessary on the part of the medical authorities. It is not always possible to arrive at an early diagnosis but the post-mortem signs are characteristic and Sir Rubert Boyce drew attention to the importance and indeed the imperative necessity of obtaining necropsies in the first suspicious deaths.

In a paper published by Dr. F. I. Wilbur on the Home of Yellow Fever he stated that the stegomyia fasciata was not a native of American seaports in the Mexican Gulf, although it was found there. His opinion was that the Sargasso Sea was the real home of this mosquito and of yellow fever and that in the still water of this sea of seaweed, around which the ocean currents sweep like rivers, was to be found the source of the disease.

Sleeping Sickness.

The alarming spread of sleeping sickness, or human trypanosomiasis, in Africa and the apparently hopeless hansom cab. On examination the left shoulder drooped, and it was found that the outer end of the clavicle had passed backwards and was resting on the spine of the scapula, and as it was entangled amongst the fibres of the trapezius it could not be reduced until a general anæsthetic had been administered. As it did not remain in its correct position Mr. GOULD wired the outer end of the clavicle to the acromion; recovery rapidly followed. This was an unusual form of dislocation of the outer end of the clavicle, the displacement being very great.

Abscess of the Liver pointing upwards.

There are certain cases of abscess of the liver in which the pus, instead of pointing towards the abdominal wall, makes its way upwards, pushing up the base of the lung. Dr. H. TAYLOR has described two cases in which he found it necessary to open such an hepatic abscess by a transpleural incision. Both the patients were private soldiers who had served at Ladysmith during the war in South Africa. In each case the pus was found by an exploring needle passed between the eighth and ninth ribs near the post-axillary line. An incision was made in the same situation; the pleural sac was incised and sutured and then the abscess was opened. In one case this was done immediately and in the other three days after the first portion of the operation. Recovery followed in both cases, though in one not until a further collection of pus had been evacuated by an incision just below the costal margin.

Hepatoptosis.

Mr. W. WATSON CHEYNE gave a valuable lecture on Hepatoptosis and Allied Conditions at the Medical Graduates' College and Polyclinic. In it he pointed out that in hepatoptosis there is not merely a sinking downwards of the liver but there is a definite rotation around the inferior vena cava; thus the sinking of the right lobe is associated with a corresponding rise of the left lobe so that the whole organ becomes more vertical and in bad cases the left lobe may be in the right hypochondrium and the right lobe may reach to the pelvis. Mr. WATSON CHEYNE described the symptoms which may be associated with this condition and he detailed two cases in which he had operated for hepatoptosis. The liver is replaced, the first step being to rotate it backwards and to the right, and then, the surgeon making sure that there is nothing between it and the diaphragm, pushes it upwards and backwards into its normal position. The fixation of the liver is obtained in two ways. In the first place, it is desirable to get as broad an adhesion between the liver and diaphragm as possible and this is done by sponging the upper surface of the liver with undiluted carbolic acid so as to set up a certain amount of peritonitis and effusion over the greater part of the surface. Then two silk stitches were passed from left to right high up on the under surface of the liver, running under the capsule for from one and a half to two inches. The two ends of each stitch were then passed through the surface of the diaphragm and tied. Additional stitches were passed along the front edge of the liver to the peritoneum and muscular walls of the abdomen. The patients were kept in bed for six weeks after the operation and they were fitted with Gallant's corsets before being allowed to sit up. These corsets are laced so as to be tight below and loose above. Much improvement followed, though some discomfort was left.

Mr. W. GIFFORD NASH has published a case of moveable liver. The patient was a woman, 43 years of age. The liver was displaced downwards so that its lower edge was on a level with the umbilicus. It could be readily pushed up into its normal position. The right kidney was also moveable. The abdominal wall was very flaccid and the recti were widely separated, a large ventral hernia presenting. The abdomen was opened by an incision in the middle line nine inches in length. The liver was pushed up into its place and fixed by four buried celluloid thread sutures, small button-hole skin incisions being made over the sites of the sutures. The ventral bulging was dealt with by the excision of a large elliptical piece of skin and peritoneum. The abdominal wound was sutured in layers. Two and a half years after the operation the patient was seen; the liver remained fixed in its normal position and the scar was firm. She looked and felt well. These cases, as well as those recorded by other surgeons, show that in suitable instances hepatoptosis may be efficiently treated by means of fixation sutures.

Surgery of the Common Bile Duct.

Mr. B. G. A. MOYNIHAN has contributed a useful address on the surgery of the common bile-duct in which he has collected all at present known about this portion of the biliary tract.

Biliary Calculi.

Mr. E. STANMORE BISHOP read a paper on Biliary Calculi before the Manchester Medical Society. He gave the details of a number of cases in which he had operated for gall-stones. The cases were specially intended to illustrate the difficulties of diagnosis; thus in one case the symptoms resembled those of chronic gastritis; in another they were referred to an umbilical hernia which was present. In a third case the symptoms suggested the presence of a growth near the ureter. The value of modern methods of operation was also illustrated by these cases. Mr. BISHOP employs both MAYO ROBSON'S incision (through the outer fibres of the right rectus) and RUTHERFORD MORISON'S incision (obliquely below the right ribs, in the direction of, and therefore avoiding, the lower intercostal nerves).

Very large gall-stones may be passed by the bowel; they have in all probability ulcerated their way through the wall of the gall-bladder into some adjacent portion of the bowel. Dr. W. E. CARNEGIE DICKSON described a case in which a woman, 60 years old, had several attacks of severe abdominal pain. These were spread over two or three years. In January, 1906, Dr. GEORGE DICKSON found a large gall-stone blocking the anal canal. This was removed with some difficulty, measuring more than one and a quarter inches in length. Three months later two more gall-stones of about the same size were extracted from the rectum. It is unlikely that these three large stones passed into the small intestine, as they would almost certainly have been arrested at the ileocæcal valve. The total weight of the stones was nearly one and three-quarter ounces.

Phlegmonous Cholecystitis.

Mr. G. A. WRIGHT has detailed three cases of phlegmonous cholecystitis; it is a rare condition very difficult of diagnosis, and, unless treated surgically, it is practically certainly fatal from peritonitis, with or without perforation. The first of Mr. WRIGHT'S cases was as follows. A man, aged 31 years, was suddenly attacked with pain in the right iliac region. The pain increased and he became delirious, with a temperature of 101° F. A well-marked hard mass was felt in the right iliac region. The case was diagnosed as one of acute appendicitis and the abdomen was opened. Some yellow serum escaped and the distended gall-bladder was felt. It was black in appearance and looked as if it were gangrenous, but it could not be brought up to the surface. Ten ounces of black bile were drawn off and the gall-bladder was fixed by sutures and incised. There came away 400 small gall-stones at the time and within the next two months and a small sinus was left. In the two other cases death followed the operation. Even when recognised and treated surgically phlegmonous cholecystitis is a very fatal condition.

Ascites caused by Cirrhosis of the Liver.

At the Toronto meeting of the British Medical Association Mr. SINCLAIR WHITE of Sheffield opened a discussion on times out of 19 in which kidney extract was used and that such frequency of a pressor effect was not noticed after the injection of extracts of other organs except the suprarenals. He concluded that when the kidney cortex atrophied, as in cases of granular kidney, the pressor substance resident in the cortex entered the circulation and was responsible for the rise of blood pressure met with in that condition. The Bradshaw lecture was delivered by Dr. S. J. SHARKEY who chose as his subject Rectal Alimentation. He arrived at the conclusion that sugar, peptones, and pulverised casein were the best constituents that could be utilised. The Oliver-Sharpey lectures were given by Dr. E. I. SPRIGGS on the Bearing of Metabolism Experiments upon the Treatment of Some Diseases. Dr. W. H. HAMER was the Milroy lecturer, his subject being Epidemic Disease in England—the evidence of variability and of persistency of type. Dr. NORMAN MOORE gave the Fitz Patrick lectures on the History of the Study of Clinical Medicine in the British Isles, and Professor WILLIAM OSLER was the Harveian orator.

The Official Nomenclature of Disease.

The special committee of the Royal College of Physicians of London appointed in 1902 to revise the nomenclature of diseases has now concluded its labours and copies of the work have been distributed. The registration and classification of the causes of fatal diseases are carried out with ever-increasing efficiency at Somerset House, and we doubt not that the publication of a new authorised nomenclature will be welcomed by the Registrar-General and his medical adviser as an invaluable aid in their work.

SURGERY.

The progress of surgery during the year now ending may be well illustrated by cases taken from the columns of THE LANCET.

The Surgery of the Heart.

The surgery of the heart shows a steady advancement. Only a few years have passed since first an attempt was made to close by sutures a wound of the heart, and to FARINA must be given the credit of this bold advance in surgery. It is true that his patient died four days after the operation, but the death was due to pneumonia and therefore the operation can hardly be looked upon as a failure. REHN's was the first successful case, and now many instances are on record in which a stab wound of the heart has been successfully sutured. We have had comparatively few cases in this country; they are more common in Italy where knives are more freely used in quarrels than in England. We have been, however, able to record a very remarkable case of wound of the heart. Mr. FREDERICK T. TRAVERS of Maidstone had under his care a boy, 19 years of age. The patient had fallen on an iron spike which had been driven into the sternum, fracturing the bone. Some of the broken pieces of bone had penetrated the pericardium and had caused an extensive and irregular wound of the right ventricle. Mr. TRAVERS laid open the pericardium and found and sutured the wound in the heart. The patient survived nearly 11 days. The wound of the heart was remarkable for its extent and the skill of the operator deserved a better final result. In these cases of wound of the heart the chief cause of death is compression of the auricles by the blood poured out into the pericardial sac, and not the actual loss of blood.

Hæmothorax.

Hæmothorax from an external wound without fracture of a rib or wound of the lung is rare, as the intercostal arteries are well protected by the ribs under which they lie. Mr. DONALD DUFF and Mr. JOHN ALLAN of Glasgow have recorded a case in which a man, aged 48 years, fell through a glass door and wounded his left side. Blood slowly accumulated in his left pleural cavity but at no time was any hæmoptysis present. Six days after the injury it was found necessary to lay open the wound, to drain the pleural sac, and to suture the ends of the intercostal artery lying under the sixth rib; both ends were bleeding. A slight rise of temperature occurred for a few days after the operation but the wound healed well. The valvular nature of the original wound had prevented a pneumothorax until the time of the operation, but the air then admitted was soon absorbed and no pus was formed at any time.

Empyema.

Dr. THOMAS OLIVER of Newcastle-on-Tyne has called attention to the danger of hæmorrhage occurring in simple incision of the chest wall for empyema. He described fully one case and mentioned two others. A young man, 19 years of age, had an attack of pneumonia and on the tenth day an empyema developed on the right side. An exploring needle drew off some pus and then an incision was made (under local anæsthesia) and some pus with blood escaped. The hæmorrhage continued in spite of attempts to stop it and the patient died 13 hours after the operation from hæmorrhage and exhaustion. At the necropsy no wounded vessel could be found. The source of the bleeding in these cases is obscure but probably the toxæmia is in part responsible for its occurrence and for its failure to cease through loss of coagulability.

Dr. J. F. LEYS has advocated the treatment of acute empyema by simple incision and drainage, though he acknowledges that resection of a rib may be necessary in cases of chronic empyema. Mere incision was used 2000 years ago but it has been replaced by resection of a portion of a rib. Professor W. OSLER and Dr. E. ANDREWS are both strongly of opinion that mere incision is quite sufficient in acute cases. The cases recorded by Dr. LEYS show that in some instances simple incision is sufficient.

Dislocation and Fracture of the Sternum.

Dr. W. A. JAMES has recorded a case of dislocation of the manubrium from the gladiolus. The patient, who was 51 years old, was working in a sewer and a fall of earth fixed him against the wall. The first piece of the sternum was driven backwards for about an inch. There was much pain on coughing or deep breathing and he had great difficulty in sleeping. Gradually the depression diminished, but for more than three months the patient could do only light work and he was easily fatigued.

Dr. J. FINLAY ALEXANDER of Lastingham has published a case of fracture of the sternum. The patient was a farm labourer, 60 years of age. He fell about eight feet on to the back of his head. A large bruise appeared covering nearly the whole of the front of the chest and a projection was found across the sternum at the level of the second intercostal space. The sternum was found to be broken immediately above the third costal cartilage. The ridge was caused by the projection upwards and forwards of the lower fragment. The displaced portion was easily reduced by making the patient lie flat on his back and good union occurred in three weeks.

Rib Fractured by Muscular Action.

Dr. S. HERBERT DAUKES of High Wycombe has put on record a case in which a rib was fractured by muscular action. A man, 52 years of age, was straining at stool and "felt something go"; on examination the left sixth rib was found to be fractured in the mid-axillary line. No predisposing cause could be found but the patient was liable to gout. Union took place readily.

Rare Form of Dislocation of the Clavicle.

Mr. J. ERNEST ACOMB has recorded a case which was under the care of Mr. A. PEARCE GOULD at the Middlesex Hospital. A man, 55 years of age, was knocked down by a

Important data as to the frequency of gastric ulcer and the ultimate fate of those afflicted with it are still wanting. Statistics which have been compiled to illustrate this point vary greatly and the estimates which have been formed are not always based on facts. It has been said that probably 50 per cent. of cases of gastric ulcer ultimately die from the disease directly or indirectly. It is equally difficult to prove or to disprove these figures. Probably in the future surgeons will be more ready to intervene in cases of gastric ulcer than they are at present.

Vermiform Appendix.

The appendix cæci is attracting as much notice as ever. Dr. John Gutch has recorded a case in which a man, aged 36 years, suffered both from appendicitis and from perforation of a duodenal ulcer; and Dr. F. Bolton Carter of Leicester has drawn attention to the fact that he published notes of a similar association in The Lancet in 1901. It is probable that there was a causal connexion between these conditions, each of them being septic in origin.

Appendicostomy.

Sir William H. Bennett has again drawn attention to the possibilities of appendicostomy. At the annual meeting of the British Medical Association in 1905 Mr. C. B. Keetley spoke eloquently on the merits of this operation and Sir William Bennett has supported what was then said. The operation is very simple. A small oblique opening is made through the abdominal wall at the spot usually selected for appendicectomy. The opening should be large enough to admit two fingers and the appendix is hooked out; this is easy if no adhesions are present. The appendix is drawn through the wound until its base is in contact with the parietal peritoneum and it is then fixed in this position by a fine stitch of silk or catgut passing through the meso-appendix and the adjacent edges of the peritoneum. The appendix is opened immediately or in a few days' time. Appendicostomy is especially useful for treating morbid conditions of the large intestine such as colitis. The opening may also be employed for introducing aperients in very obstinate cases of constipation or for administering nourishment. Mr. H. M. W. Gray of Aberdeen has had two cases in which he performed apppendicostomy for colitis with marked success in one case. Mr. Keetley has used the operation to enable fæces to escape from the bowel in a case where it would otherwise have been necessary to perform a cæcal colotomy. It was found practicable to dilate the appendix sufficiently to allow the fæces to pass, but it then acted well and all the distension was relieved, resulting from a malignant obstruction of the transverse colon. Mr. Keetley is also in favour of the operation of appendicostomy for the purpose of treating the lower end of the ileum in cases of typhoid fever. We are not aware that anything has been done in this direction.

Dr. William Ewart has given a useful account of the mode of irrigating the cæcum and colon through the appendicostomy opening. For washing out the large intestine a No. 8 rubber catheter with a copper stylet is employed, and a rectal tube with an attached outflow tube. The largest irrigation used was 20 pints. The patient lies on his back, but if the cæcum gets distended and the fluid does not pass turning him slightly to the left will restore the flow. Dr. Ewart shows also that it is easy to inject or to irrigate the lower ileum.

X Rays and Renal Calculi.

The diagnosis of renal calculi is often exceedingly difficult and up to a recent date but little assistance had been obtained from the x rays. Mr. C. Thurstan Holland has described his method. He employs a metal tube which presses on, and fixes, the kidney and so prevents the respiratory excursion of the organ. As, however, only a small area is skiagraphed at a time five separate plates and five exposures are necessary. The results are very satisfactory. Mr. Henry Morris contributed a note on the skiagraphic shadows of cystic and xanthic oxide calculi. He showed that both of these substances give a very definite shadow and therefore the x rays can be utilised in their detection.

Intramuscular Injections of Mercury.

The treatment of syphilis by the intramuscular injection of insoluble preparations of mercury is somewhat fashionable at the present time. It has its advantages, the main one being that the disease is rapidly brought under control and that the surgeon can be certain that the patient does receive the medicine. In a small percentage of cases, however, there is a risk of mercurial poisoning, and several fatal cases from this cause have been recorded. Sometimes it is possible to put a stop to the poisoning by excision of the mercurial deposit, but not always. A case has now been recorded by Dr. M. P. Menetrier and Dr. Bouchard of Paris, in which severe mercurial stomatitis occurred in a woman five months after an injection of "gray oil" into the buttock. The stomatitis continued until the mass in the buttock was excised.

OBSTETRICS AND GYNÆCOLOGY.

Uterine and Ovarian Physiology.

An important paper on this subject has been published during the past year by Mr. C. J. Bond. He has established as the result of numerous experiments on rabbits that the endometrium has a secretion peculiar to the anœstrous state. He believes, too, that some substance is elaborated by the pregnant uterus which stimulates the growth of corpora lutea in transplanted ovaries. He suggests, further, that the ovary elaborates only one internal secretion having an influence on the uterus of an anabolic character, which at recurring intervals increases in amount and produces the phenomenon of procœstrus and œstrus. A formation of this substance occurs also during pregnancy owing to a stimulus derived from an internal secretion elaborated by the endometrium at the sites of the imbedded trophoblasts and provides for the increased growth of endometrium associated with the early stages of pregnancy, while the anœstrous or saline secretion of the uterus is antagonistic to the ovarian secretion and during the anœstrous period overcomes the ovarian reaction now reduced in intensity and amount.

The Teaching of Midwifery.

It has long been a matter of common knowledge that the clinical instruction in midwifery given to the students in the London schools of medicine is of a very unsatisfactory character. During the past year a committee of the Royal College of Physicians of London has been considering the subject and it has presented a very valuable report. A committee of the General Medical Council has also been trying to devise some means of improving the clinical teaching of midwifery and its report, also a valuable document, is considered in our *résumé* of the work of the Council during the year. We may hope that the present regulation by which students are allowed to present themselves for their final examination in midwifery after the lapse of one year only from the date of passing their first professional examination will be rescinded; it has been productive in our opinion of a good deal of harm and it results only too often in a considerable waste of the student's time. Whether it will be possible to insist, as the committee of the General Medical Council has recommended, that the student shall not be allowed to conduct the 20 cases of labour required to be attended before he has filled the post of clinical clerk and surgical dresser and attended a course of lectures in surgery, medicine, and midwifery remains to be seen, but we certainly think that such a regulation if it were found practically possible would be a most excellent one. The committee has further recommended that every student the question of the Surgical Treatment of Ascites caused by Cirrhosis of the Liver. He described the various channels of communication normally existing between the portal and systemic circulations and he explained how DRUMMOND and TALMA independently conceived the possibility of making fresh anastomoses. The contra-indications of the operation are the presence of much sugar or albumin in the urine and organic lesions of the heart and lungs. As to operative details, the fixation of the omentum is the most important step; additional procedures are "rawing" the peritoneal surfaces of the liver and spleen; or the spleen may be fixed in a rent in the parietal peritoneum. The spleen is best dealt with through an independent opening. The great omentum may be fixed by many sutures to the opposed parietal peritoneum previously freshened by vigorous gauze rubbing. SCHIASSI of Bologna inserts the great omentum between the anterior parietal peritoneum and the abdominal muscles. As to the result, MONPROFIT in 1904 collected 224 cases; of these, 84 died within one month, a death-rate of 38 per cent. Mr. SINCLAIR WHITE had collected 227 cases; of which, 33 per cent. died within one month of the operation, 15 per cent. were failures, 13 per cent. were improved, and in 39 per cent. the ascites disappeared. Peritonitis was not infrequent after the operation and this showed that the resistance of the peritoneum was lowered. Mr. G. GREY TURNER gave the results from Newcastle-on-Tyne. Of 16 operations, five patients died within a few days, three from pneumonia, one from uræmia, and one from cholæmia, but all these fatal cases were unsuitable for the operation. Of the 11 patients who survived the operation five had subsequently died and only five were known to be alive; one case could not be traced. Only six of the cases were really suitable for the operation and of these three were alive and well seven and a half years, one year, and seven months respectively after operation; two lived in good health for five years and two years respectively and died from other causes; and one case could not be traced. Dr. T. K. MONRO and Dr. A. N. MCGREGOR of Glasgow reported a successful case of epiplopexy for cirrhosis of the liver. The man was 40 years of age and there was no history of alcoholic excess; he had cirrhosis of the liver and ascites with hæmatemesis and melæna. The operation consisted in simple suture of the omentum to the anterior parietes without rubbing or scraping. The result was good; all the ascites disappeared and, except for one attack of melæna, he was well. A dilated superficial epigastric vein eight months after the operation ran down to the left groin from near the lower end of the scar. It is clear that for this operation a careful selection of cases should be made. Dr. R. KNOX has pointed out that the reaccumulation of fluid after tapping for ascites does not so readily occur if pressure is kept up over the abdomen. He attributes this procedure to Dr. ALEXANDER MORISON who, however, shows that RICHARD MEAD advocated this measure in 1762. Dr. KNOX employed pneumatic pressure, produced by inflating a large indiarubber pad under a resisting belt. Pressure is also employed by some surgeons after epiplopexy.

Splenectomy.

Splenectomy for rupture is a very successful operation provided that the condition is recognised early and that the operation is performed before the patient is exhausted from loss of blood. Mr. GRAHAM S. SIMPSON has recorded a case of rupture of the spleen. The patient, a man, 27 years old, fell some 20 feet; he was taken to the Sheffield Royal Hospital and was found to be suffering from a fracture of the left femur. Four hours later he complained of severe abdominal pain and the abdomen was found to be rigid, especially in its upper part, and it did not move with respiration. The liver dulness was present. The abdomen was opened to the left of the umbilicus and there was an alarming rush of dark-red blood. The spleen was found to be torn transversely. A long pair of artery forceps was applied to the pedicle and this at once controlled the bleeding. The incision was prolonged upwards; the pedicle of the spleen was transfixed and ligatured and the spleen was excised. Except for some severe epigastric pain on the fifth day he did well. Mr. SIMPSON appended to his paper a useful discussion of the main points in connexion with rupture of the spleen and he also gave interesting details as to the blood count of his patient on several occasions.

Dr. R. H. LUCY of Plymouth has removed a wandering spleen. The patient was a woman, 21 years old, who for two years had complained of a hard swelling in the left groin. The diagnosis varied between an enlarged left kidney and an ovarian tumour. With the patient under an anæsthetic a hard moveable mass could be felt in the left lumbar, umbilical, and epigastric regions. The abdomen was opened in the middle line below the umbilicus and an enlarged spleen was found. By rotation of the organ the notched anterior border had become posterior. The spleen was much engorged. The pedicle was long and allowed much movement. It was clamped and tied and the spleen was cut away. The component vessels were then tied separately and the peritoneum was sewn across the stump. Except for a slight rise of temperature for a day or two she had an uneventful recovery.

Dr. G. E. ARMSTRONG of Montreal has reported a successful case of the removal of the spleen in Banti's disease. The patient recovered completely and the blood became normal. An interesting and unusual feature was the occurrence of tetany about 12 hours after the operation; the spasms lasted about 40 hours and then ceased completely. Of 32 recorded cases of splenectomy in Banti's disease nine died, a mortality of 28 per cent. The recovery in the successful cases of this operation appears to be complete and the blood returns to a normal condition.

Surgery of the Stomach and Intestines.

The surgery of the stomach and intestines has been very much in evidence during the year, but no special advances have to be recorded. There had been much discussion as to the relative merits of the anterior and posterior methods of performing gastro-enterostomy, Mr. H. J. PATERSON claiming the general superiority of the anterior operation, while Mr. MOYNIHAN gave many reasons for preferring the posterior method. It cannot be said that the discussion is yet at an end. Time will probably decide. At present it must be recognised that in competent hands either method can give very satisfactory results.

"The Acute Abdomen."

Mr. W. H. BATTLE has contributed three clinical lectures on the "Acute Abdomen," in which the signs and symptoms likely to be present were fully discussed and many illustrative cases were detailed. Of 456 cases of acute abdominal disease which were in St. Thomas's Hospital in the three years 1900 to 1902 inclusive, 37 per cent. were cases of appendicitis and its complications. The lectures were of great value, as they were based on an extensive experience.

Gastric Ulcer.

The most important point in connexion with the surgery of the stomach at the present time is the question as to the operative treatment of simple ulcer which has not perforated. Where perforation has occurred all acknowledge that only surgery can offer any prospect of recovery, but when the ulcer is still unperforated and there is no hæmorrhage of any moment should the physician call in the surgeon to operate? This is a difficult matter and no definite answer can yet be given. The tendency is for the surgeon to claim all cases of simple gastric ulcer, while the physician feels that he is capable of treating satisfactorily the majority of such cases.

immigrant being practically impossible. However, Mr. WEBB holds that the conclusion to be drawn is not one entirely of despair but rather of hope. He holds that if the decline in the birth-rate had been due to physical degeneration we could not have coped with it, but that a deliberate volitional interference can be at once influenced by alteration of economic conditions. He believes that the production of large families would be promoted by the furnishing of free attendance to the mothers, the feeding of the infant or of the mother gratuitously when necessary, and the promotion of such measures as those insuring free meals for school children, and further assistance even to the extent of tax-supported higher schools for their better education. In this manner he would attempt "to endow motherhood" and to promote the birth of a larger number of children. There may well be much difference of opinion as to the efficacy or indeed the practicability of the suggested remedies. Mr. WEBB has, however, done good in again calling attention to a matter of great interest to all and especially to medical men.

Fibroid Tumours of the Uterus.

So long ago as the year 1894 Dr. W. F. NOBLE expressed the view that fibroid tumours producing symptoms should be removed as soon as they were discovered, or, in other words, that the principle of early operation which is now generally accepted with reference to ovarian tumours is equally applicable in the case of fibroid tumours. During the 12 years which have elapsed since that time he has become more and more convinced that this view is a right one and in support of this contention he has recently published a paper based on a compilation of some 2274 consecutive cases of these tumours, including 337 cases of his own, in which he has studied the degenerations and complications, together with a further series of some 4880 cases considered in their relation to the occurrence of carcinoma and sarcoma. After a very exhaustive survey of the various degenerations and complications which may accompany fibroid tumours of the uterus, as well as a study of the present-day mortality of the operations performed for their removal, he comes to the following important conclusions. He considers that the evidence which he is able to bring forward confirms the soundness of the teaching that a fibroid tumour should be removed because of the dangers inherent in the natural course of the disease and not because of the particular symptoms complained of when the woman comes under the observation of the physician. Early operation presents the following advantages over the expectant plan of treatment. It saves long years of invalidism or semi-invalidism. It enables women to fulfil the duties which devolve upon them instead of having their activities limited in the effort to reduce their symptoms to the minimum and to prevent accidents to the tumour. It avoids the risks to life from the development of sarcoma in the tumour and from the development of cancer, more especially in the body of the uterus. It further avoids the risk to life from degenerative changes in the tumours such as necrobiosis, necrosis, and secondary septicæmia; cystic degeneration; such accidents as twisted pedicle; pressure on the urinary organs; pressure on the bowels; anæmia, cardio-vascular degeneration, thrombosis, phlebitis, and embolism; malnutrition and the greater liability to intercurrent diseases arising from lowered vitality due to anæmia or to malnutrition. It greatly lessens the risk of operation. It is only necessary to contrast the risk of removing a fibroid tumour in a relatively young woman, having good general health and none of the secondary ill-consequences which arise from the continued development of the tumour, with similar operations upon a woman reduced by hæmorrhage or suffering from malnutrition due to disturbances of the functions of the intestine, or upon women having secondary cardio-vascular or renal degeneration, to appreciate what is gained by early operation. Early operation would probably eliminate or certainly reduce to the minimum deaths from embolism, which are relatively so common after operations when performed late in the natural course of fibroid tumours. The mortality from operations performed early would be reduced to 1 per cent. or less as compared with probably 5 per cent. when the operation is performed under conditions as they exist at the present time. The whole question is one of the greatest importance to all gynæcologists, and a solution of the various problems involved can only be obtained by the detailed study of large numbers of cases such as are contained in this very important paper by Dr. NOBLE. While we may not quite agree with all his conclusions he has furnished large numbers of facts for our consideration and the paper should be studied carefully by all those who have to decide these questions.

Chronic Metritis.

The subject of chronic metritis is one of great interest to the gynæcologist as there are still many points which are obscure in its pathology. An important paper on this disease was communicated at the British Medical Association meeting at Toronto by Dr. W. GARDNER and Dr. J. R. GOODALL. After a careful examination of nine cases they have come to the following conclusions. That clinically simple and complicated cases of chronic metritis may be recognised. By simple cases they mean those in which the uterus is involved alone, whereas in complicated cases there is also some inflammatory condition of the other pelvic organs. Pathologically they divide cases of simple metritis into two groups: first, those which arising from infection or subinvolution show degenerative changes resulting from an inflammation or from passive congestion; and, secondly, those of arterio-sclerotic origin with true fibrosis of the uterine wall and arterio-sclerotic changes in the uterine vessels. The latter are not due to infection, whilst the former class may or may not be due to such a cause. In cases of simple metritis not of arterio sclerotic origin there is hypertrophy of the muscle and connective tissue elements due to incomplete involution or to passive congestion. In cases of arterio-sclerosis there may or may not be muscular hypertrophy. The menorrhagia and metrorrhagia in metritis are due to muscular insufficiency not only of the uterine muscle but also of that of the arteries. On the other hand, the hæmorrhages in arterio-sclerotic uteri are due to pelvic congestion and high arterial tension with lack of contractility of the vessels and atrophy of the muscle tissue of the uterine wall. The writers found, further, that the general changes throughout the uterine wall in cases of fibromyomata of the uterus are essentially the same as those met with in cases of simple metritis due to infection or to subinvolution and that the hæmorrhages in such cases arise from the same causes.

OPHTHALMOLOGY.

New Remedies and Apparatus.

A uniform standard for the illumination of the test types in common use has been proposed by Dr. CHARLES H. WILLIAMS of Boston who recommends that two vertical columns of eight incandescent lamps, each of five candle power, should be placed at a distance of one foot from the plane of the card and one foot from the nearest edge on either side, the observer being protected by a screen. The means of localising foreign bodies in the eye and orbit have been improved by Mr. GEORGE DICKSON. A new electric perimeter was brought under the notice of the Ophthalmological Society. It is a modification of the perimeter of Dr. PRIESTLEY SMITH. Dr. COBURN has described in the *Archives of Ophthalmology* an apparatus which he has devised should be required to attend for one month the practice of a lying-in hospital or in the lying-in wards of a general hospital. It is difficult to see how this recommendation is to be carried out in actual practice. At the present time the majority of general hospitals have neither the beds necessary nor the means of giving such instruction. It can only be successfully done in one or two large lying-in hospitals to which all students shall be required to go, and even then the financial cost seems a very great difficulty. It is, however, an encouraging thing, especially to those teachers of midwifery who have long recognised that the teaching of medical students in this subject is most inadequate, to find that at last the matter is engaging the attention not only of the General Medical Council but also of the Royal College of Physicians of London.

Heart Disease complicating Pregnancy and Labour.

The somewhat pessimistic views which many of the older writers on this subject held with regard to the dangers of heart disease in connexion with pregnancy or labour must be held to be inaccurate in view of the fuller observations upon the subject which we now have. It is very necessary to remember that there are two classes of these cases, the first class coming mainly within the purview of the general physician in which the patient, although the subject of heart disease, has yet borne children without undue difficulty or danger, and the second and smaller class with which the obstetric physician has mainly to deal, in which the presence of the heart disease produces symptoms during pregnancy or labour, rendering it necessary for the advice of a specialist to be sought. The statistics published by the various obstetric physicians who have written upon this subject present therefore, no doubt, a somewhat too gloomy picture, since they are based mainly upon the more severe or complicated cases. That it is possible for women suffering from heart disease to bear large numbers of children without undue difficulty or danger has always been recognised. This fact has been put upon a sure basis by a paper read before the Royal Medical and Chirurgical Society by Dr. H. S. French and Mr. H. T. Hicks on June 12th on Mitral Stenosis and Pregnancy. They give an exhaustive analysis of the obstetric histories of some 300 women over 20 years of age who had mitral stenosis with or without other lesions. They show that comparatively few of the women were sterile, that they were not especially liable to abort, and that the majority had borne children well. They further conclude that when heart failure develops in connexion with pregnancy it does not do so as a rule with the first pregnancy but after several pregnancies. The treatment should be the same as in a non-pregnant woman, and it is not just absolutely to prohibit marriage in all women suffering from mitral stenosis. Dr. French and Mr. Hicks do not deny that pregnancy may cause serious or even fatal heart failure in cases of mitral stenosis; indeed, they hold that heart failure is to be expected in almost all cases of valvular disease sooner or later, but they consider that the danger of pregnancy has been overstated in these cases since the statistics have been based upon cases of mitral stenosis which have come under observation because heart failure has developed during or soon after pregnancy.

External Cephalic Version.

External cephalic version, although a manœuvre of great antiquity, has never been practised to the extent that it deserves. Those obstetricians who have attempted to turn the child in cases of breech presentation by abdominal manipulation have only too often found their attempts of no avail. In many instances it has seemed impossible and the fact that the results are often so disappointing is, no doubt, responsible for the infrequency with which this variety of version is attempted.

In a very interesting paper on Version read before the Obstetrical Society of London Dr. W. Rivers Pollock points out that the difficulty of performing external cephalic version can be almost entirely overcome by placing the patient in an inverted position, with her trunk as vertical as possible. The patient is lifted up by the legs and whilst she is in that position the manipulations necessary to turn the child are carried out. No doubt an extreme degree of the Trendelenburg position would answer equally well and be less irksome to maintain. By adopting this position Dr. Pollock had never failed to carry out external cephalic version and such a position has the further merit of being of considerable assistance in the performance of other kinds of version.

The Treatment of Placenta Prævia.

The method of treating cases of placenta prævia by turning and bringing down the half breech into the cervical canal, whilst very successful in arresting the hæmorrhage, yet is attended with an excessively high infantile mortality. This defect is to some extent remedied by the use of a de Ribes bag for the purpose of making pressure upon the bleeding sinuses and so arresting the hæmorrhage. Dr. Richard Warren has recorded the results in The Lancet of Feb. 3rd, 1906, p. 276, of some 94 cases of placenta prævia treated in different ways. In 21 cases no treatment or only minor measures such as the administration of ergot or rupturing the membranes were adopted. Of these cases none of the mothers died and only six of the infants, or 22 per cent. In six cases treated by bipolar version one of the mothers died and four of the infants. In 21 cases internal version was carried out or manual delivery in the case of pelvic presentations. Of these cases five of the mothers died and 14 of the 22 children. 40 cases were treated by the insertion of a de Ribes bag. In this series none of the mothers died and only 25 of the children. Dr. Warren has collected from various sources the results of 249 cases of placenta prævia treated by the use of a de Ribes bag with a maternal mortality of 8, or 3·2 per cent. and a fœtal mortality of 68, or 31 per cent. (the best results that have been obtained in any large number of cases both for mothers and infants). In 420 cases treated by bipolar version 26 mothers died, or 6·1 per cent., and 256 infants, or 61 per cent. It would certainly seem, therefore, that the method of treatment by a de Ribes bag is the best one to adopt in bad cases of placenta prævia and the results obtained by Dr. Warren confirm the generally accepted view that the use of this bag tends to lessen the infantile mortality and gives as good results as can be obtained by any other method of treatment as regards the mothers.

The Endowment of Motherhood.

The continuous decline in the productivity of the population of these islands is a subject which attracts a considerable amount of attention and has recently been brought very forcibly before the profession by the publication of two striking articles by Mr. Sidney Webb on Physical Degeneracy or Race Suicide. He brings forward evidence which, he thinks, shows fairly conclusively that the falling off of the birth-rate which has in the last 20 years deprived England and Wales of some 200,000 babies a year is the result of deliberate intention on the part of the parents. In support of this view he relies on the persistence and universality of the fall, the absence of any discoverable relationship to unhealthy conditions, mental development, or physical deterioration, the remarkable fact that the fall has been greatest where it is known to be desired widely, the evidence that it accompanies not extreme poverty but social well-being, and that it is exceptionally marked in those classes of the population in which foresight and thrift exist. To Mr. Webb the position appears to be perilous. He predicts that the vacuum produced by the continually falling birth-rate will not long remain unfilled, exclusion of the alien on the etiology of trachoma. The essay may be written in English and must be received by I. VAR, Budapest, before Jan. 1st, 1909. Also the Middlemore Prize of £50 and a certificate will be awarded next year; the essay must be sent in to the general secretary of the British Medical Association on or before April 30th, 1907; the subject is ophthalmia neonatorum. For the treatment of trachoma Dr. MELLO BARETTO of St. Paul, U.S., recommends the subconjunctival injection of a few drops of a 1 per cent. solution of pyoctanine and the same remedy combined with dionine has been found by Professor WICHERKIEWICZ very serviceable in the treatment of corneal ulcers and dacryocystitis and in cases of phlegmonous inflammation of the orbit.

Myopia.

The serious consequences of high myopia and their treatment were discussed by Professor UHTHOFF of Breslau and by Professor SATTLER of Leipsic at the International Congress of Medicine held at Lisbon, attention being particularly called to detachment of the retina and to the various operative measures that have been proposed or adopted to improve or to remedy that very serious but not infrequent condition. The measures passed under review by Professor UHTHOFF were puncture of the retina, puncture or excision of a portion of the sclerotic, drainage by means of gold wire or catgut, electrolysis, iridectomy, the injection of substances with the object of exciting sufficient inflammation to make the retina adhere to the choroid, cauterisations of the sclerotic with the thermo- or galvano-cautery, subconjunctival injection of solutions of common salt or of eserine either alone or combined with puncture of the sclerotic, and lastly, injections into the capsule of Tenon, a list that is sufficiently suggestive of the frequency with which the disease occurs, its threatening nature as regards vision, and the difficulty of effecting any amelioration of the symptoms. It is a matter of regret that Professor UHTHOFF is unable to give even a qualified support to any of these proceedings and falls back upon measures of prevention rather than of cure, in other words, on the provision during school life of abundance of light and air, good type, and correction of errors of refraction. Professor SATTLER was of opinion that in childhood total correction in myopia of ten dioptres cannot be borne; in high myopia the correction is sufficient if it enables the patient to work at a distance of from 20 to 25 centimetres (eight to ten inches). He thought that primary simple extraction of the lens in high myopia—that is, of 18 dioptres or more—is on various grounds preferable to extraction performed with a preliminary iridectomy. An instructive article has been written by M. P. DE FONT-RAULX who has examined up to 1900 the accounts of all the cases that have been reported in which the lens has been removed in high myopia. His conclusions are that the removal of the lens in high myopia does not render the eye more useful, the patient often preferring to use the eye that has not been operated on; that if improvement is thought to take place in the first instance it is not permanent; that neither the elongation of the eye nor any pre-existing lesions of the retina and choroid are arrested in their progress; that retinal detachment and glaucoma occur too frequently to be ignored as possible complications; and, lastly, that secondary operations are often required. Many surgeons have tried the proceeding but FUCHS and others with large means of clinical observation have given it up. It is noteworthy that a case of detachment of the retina in both eyes which had been successfully operated on in one eye and with partial success in the other ten years previously by M. PARINAUD was exhibited by M. J. CHAILLOUS and M. A POLACK. The operation in this instance consisted in puncturing the sclerotic.

Cataract.

Dr. HARMS of Breslau has given a histological description of a case of spontaneous absorption of senile cataract contained in an unruptured capsule—an event of such rare occurrence that only 50 cases are on record. Few of these have been examined under the microscope. Enucleation was performed in Dr. HARMS's case for secondary glaucoma and a few fragments were all that remained of the lens. That cataract may follow a thunderstorm, whether produced by the direct action of the lightning or by the vibration and shock of the thunder-clap, is well known and instances are recorded by Dr. VERHAAGE and Dr. WERNICKE, the latter of whom has collected no less than 17 well-authenticated cases. In one of these occurring in both lenses of an infant the removal of the cataract was effected by Professor UHTHOFF with good results, showing that the functions of the retina were not impaired. 12 of the cataracts were double and five were unilateral. In the literature of this subject according to Dr. A. YVERT, only 19 cases of other forms of eye disease caused by lightning are to be found. That cataract can be produced by electrical discharges in animals has been demonstrated by Dr. HESS. The etiology of anterior polar cataract has been illustrated by cases reported by M. VALUDE, M. ONFRAY, and M. OPIN. M. VALUDE'S cases lead him to the conclusion that anterior polar cataract may have a double origin—either from a destructive inflammation of the cornea at birth, with or without perforation of that membrane, or it may be truly congenital and represent a malformation of intra-uterine origin, possibly an iridochoroiditis. M. ONFRAY and M. OPIN believe that in the case existing in an adult whom they examined there had been adhesion between the crystalloid and the anterior epithelium of the lens. There must have been some inflammatory process, since there were posterior synechiæ.

Arterio-sclerosis.

Under the term "ocular arterio sclerosis" Professor ROHMER of Nancy has published a report of much value in which he has endeavoured to show that it consists of an indurative endo- and peri-arteritis of the smaller vessels coinciding in almost all instances with atheroma of the larger ones. He attributes to the effects of this process the changes usually observed, as age advances, to take place in the conjunctiva, cornea, iris, and retina. Obstruction in the retinal vessels, formerly supposed to be due to embolism, he considers to be in most cases the consequence of a thrombosis following a proliferating endarteritis, the obstruction occurring in the veins as well as in the artery. It is, he holds, the cause of retinal hæmorrhages and the conditions established are intimately associated with the supervention of glaucoma. Arterio-sclerosis is the cause of the failure of vision in old persons, which again is connected with changes in the lens, and may compromise operations for the removal of the lens, when the changes have advanced to cataract. The report was the subject of an interesting discussion in the Société Française d'Ophtalmologie, in which many leading ophthalmologists took part. In a communication made to BOUCHARD and CHAUVEAU'S *Journal de Physiologie et de Pathologie Générale* M. A. PIC and M. S. BONNAMOUR maintain the proposition that behind the condition of atheroma and arterio-sclerosis causes directly affecting the nervous system may always be found. These causes are either auto- or hetero-infections; amongst the infections causes of arterio-sclerosis are, occupying an important position, syphilis and tuberculosis.

Retina.

The morphological changes which follow alternate exposure to light and darkness have been investigated by Dr. P. CHIARINI who finds after exposure for some time to bright light movement of the retinal pigment towards the external limiting membrane and contraction of the epithelial cells occur together with shortening of the cones, change in the form of the internal members of the rods due to the extension of the ellipsoids of the cones towards the external limiting membrane, change in the form of the external granules which become straighter and longer, and, to record ocular movements. He has named it the ophthalmokinematograph. An instrument named an ocular transilluminator, consisting of a minature electric lamp with a powerful condensing lens, has been devised by Dr. Ziegler, and Dr. Lucien Howe of Buffalo, U.S., has constructed a perimeter with a gun sight and a telescope attachment for measuring the field of fixation. Amongst the new remedies which have been employed are novocain, an amino-alcohol of complex chemical composition, for which it is claimed that it is a powerful non-toxic local anæsthetic almost entirely free from irritating action, interfering but little, if at all, with the movements of the pupil and having no action on the accommodation. It is said to act well with adrenalin in from 5 to 10 per cent. solutions, the effect lasting for many minutes, and it has the further advantage that it can be frequently sterilised without impairment of its properties. Alypin is another local anæsthetic that can undergo sterilisation without injury. It has been made the subject of experiment by Dr. Hummelsheim of Bonn. Acoin is a third local anæsthetic that can be used for subconjunctival injection and is recommended by Dr. G. Hirsch of Halberstadt. A curious origin for an agent possessing anæsthetic properties is the skin of the toad, from which Dr. V. Popow has extracted a substance which he has named frynin. In 1 per cent. solution it abolishes the sensibility of the cornea and conjunctiva, but at the same time it is highly irritating, causing in animals blepharospasm, lacrymation, and vaso-dilatation in addition to remoter effects of œdema and haziness of the cornea. Dionin in 5 per cent. solution once daily following the use of atropine has been found very serviceable in cyclitis, apparently caused by septic absorption from the mouth, by Dr. T. Harrison Butler. The correct preparation of the yellow mercuric oxide ointment so largely and effectively used in conjunctival affections has been described by Mr. W. H. Martindale in the *Ophthalmoscope*.

Treatment of Superficial Inflammations by Inducing Congestion.

A method of treatment to be practised in various forms of ophthalmic disease has been proposed and carried into effect by Dr. Renner of Munich, Dr. Hesse of Graz, and Dr. Ostwalt. It consists in inducing hyperæmia or congestion at the seat of disease. The methods by which hyperæmia is induced differ, Dr. Renner adopting compression of veins, Dr. Hesse local reduction of pressure, and Dr. Ostwalt the employment of dry heat. The first method is not easily applied to the eye. The venous system of the eye is protected in large measure by the bones of the orbit and pressure causing congestion can only be applied to the great veins of the neck. Accordingly, Dr. Renner proposes the placing of an elastic band round the neck, the pressure of which can, of course, to a certain extent be regulated, but it is obvious that many other parts, the central nervous system for example, which it may be particularly undesirable to supply with an unwonted quantity of blood, will also be charged. Nevertheless, he has obtained good results in keratitis and ulcers of various kinds. The plan proposed by Dr. Hesse with the same object in view seems more feasible. A cupping glass of small capacity is adapted to the contour of the lids, to which is attached a sucking pump or an elastic tube ending in a bulb containing mercury. Dr. Hesse found conjunctival hæmorrhage could be caused by reducing the pressure from 750 to 100 millimetres. The lids being closed the rarefaction of the air effected by lowering the bulb caused œdema in a few minutes and lividity within half an hour. If the lids were parted and the reduction of pressure practised the deeper parts were strongly affected, the conjunctiva becoming to a marked degree chemosed and the cornea hazy. This method of treatment is novel and may prove appropriate for the relief of many forms of ophthalmic disease affecting the superficial parts The application of dry heat to the eye in inflammatory affections, especially of a chronic nature, has often proved efficacious, and Dr. Ostwalt exhibited at the Lisbon Congress an instrument to which he has given the name of "thermaerophore," by means of which a current of dry air heated to 150° F. or more can be persistently directed upon the surface of the eye or ear.

Bacteria and Conjunctivitis.

The pathogenic bacteria of the conjunctiva have been carefully examined and described by many observers, amongst whom Dr. Edward Shumway of Philadelphia may be mentioned, who expresses the opinion that different forms of conjunctival disease may be excited by one and the same organism, a view the correctness of which will be accepted or rejected on further evidence. In a communication recently made to THE LANCET (Dec. 1st, 1906, p. 1500) Dr. J. B. Nias and Mr. Leslie Paton have given powerful support to the suggestion made by Leber that phlyctenular ophthalmia is due to infarction of dead or attenuated tubercle bacilli. They have found that the blood of patients suffering from genuine phlyctenular ophthalmia is at the outset of the case generally deficient to a marked extent in opsonic power to the tubercle bacillus, but not to other bacteria such as the staphylococcus; but with appropriate treatment, without recourse to tuberculin, the opsonic index rapidly rises and reaches a maximum, whilst coincidently the healing of the ulcers takes place. Dr. A. Olivarez of Tortosa has obtained satisfactory results in cases of obstinate relapsing phlyctenular ophthalmia from the employment of subconjunctival injections of the cacodylate of sodium in solutions of 4 per cent. repeated every second day for a month. M. M. Carra has employed argyrol, a compound of white of egg and silver nitrate, in various forms of conjunctivitis with good results. Argyrol is very soluble and unirritating when mixed in the proportion of 2·5 per cent. with water, or with oil in the proportion of 5 per cent. and instilled into the conjunctival sac every hour or every two hours. He has found it useful in blennorrhagic cases, in acute catarrh with the diplo-bacilli of Morax, in acute contagious catarrh with the bacillus of Weeks, in strumous and eczematous cases, and in spring catarrh. It is certainly less active than nitrate of silver. Dr. Dorland Smith has published in the *Archives of Ophthalmology* a third series of 100 cases of infectious conjunctival disease in which careful examination was made to determine the nature of the bacteria present; of these 12 were associated with the Koch-Weeks bacillus, 12 with streptococci, four with the pneumococcus, five with the gonococcus, ten with the diplo-bacillus, seven with the bacillus xerosis, and in 16 cases none were discovered. Cases that seem to demonstrate the occasional occurrence of congenital purulent ophthalmia have been placed on record by Mr. Sydney Stephenson and Miss Rosa Ford. In one case conjunctivitis with straw-coloured discharge was observed 20 minutes after birth, labour having commenced eight hours and ten minutes before delivery, a period too short to allow the disease to be attributed to infection during parturition.

Serum Therapy.

Serum therapy in infectious eye diseases is the subject of a monograph by Dr. Theodor Axenfeld who states that the employment of this mode of treatment as a prophylactic against infection of the eye with diphtheria bacilli and also against pneumococcus infection has proved most successful. Less satisfactory results, however, have been obtained by Dr. O. W. Cutler who experimented with Dr. John Torrey's serum in a case of gonorrhœal ophthalmia.

Trachoma.

The attention of English ophthalmologists may be called to the fact that, as we learn from the pages of the *Ophthalmoscope*, the Imperial Hungarian Minister of the Interior announces through Dr. Emil von Grosz, the commissioner for trachoma, a prize of 1000 crowns (£100) for the best essay have a full and correct idea of the true reasons which lead them to apply for relief, since the causes are multiple, varied, and intelligible only to him who knows how to investigate the general condition of the patient, quite apart from the anatomical structure and physiological properties of the ocular media. Hence as the patient visits one optician after another, the favourable opportunity is overlooked, and vision is permanently impaired or lost. Similar views are held in Italy and Switzerland, and it is clear that on the same principles the maker of stethoscopes may claim the right of treating diseases of the heart or lungs on the strength of familiarity with the manufacture of those implements and the possession of good hearing powers, completely ignoring the knowledge of the anatomy, physiology, and pathology of the heart and lungs possessed by the accomplished physician and of the therapeutic principles on which his treatment is founded.

FORENSIC MEDICINE.

Actions at Law.

The year has been prolific in furnishing instances of civil actions in which medical men have appeared in the capacity of plaintiff, defendant, or professional witness. In the King's Bench, before Mr. Justice LAWRANCE and a special jury, an interesting case of alleged negligence was heard. The parties concerned were CRIER and Wife *v.* HOPE and CURRIE. It was alleged that Dr. G. B. CURRIE, the actual defendant, a medical practitioner residing at Ealing, had by want of reasonable precautions conveyed scarlet fever to the female plaintiff. It was alleged that Dr. CURRIE shortly after visiting a case of scarlet fever attended Mrs. CRIER in her confinement. For the defendants evidence was given to show: (1) that the fever might have been contracted in some other way; (2) that a pelvic abscess which developed was not of scarlatinal origin; and (3) that Dr. CURRIE employed such methods of disinfection as were reasonable in the circumstances. The jury found that the defendant had taken reasonable precautions and judgment was entered against the plaintiffs with costs. Subsequently an appeal made on the ground that a certain question should have been specifically put to the jury was dismissed. We took occasion to express our concurrence with the verdict. The case illustrates the dangers to which medical men are exposed whilst acting in the best interests of their patients, and points the moral that all reasonable care should be taken to avoid carrying infection from one person to another. Where practicable it is well that, in addition to the ordinary practice of changing clothes, taking a bath, and cleansing the hands, the medical attendant should wear a waterproof overall at an infectious case and an apron at a confinement which he may have to attend shortly afterwards.

A case illustrating the uncertainty of the law was disposed of at Belfast assizes. Mr. C. K DARNELL of Bangor was sued for damages in that whilst prescribing belladonna liniment for a patient he failed to convey the caution that untoward consequences might result from prolonged application of the compound. Symptoms of belladonna poisoning supervened. The action was heard three times. At the first trial the jury disagreed. At the second a verdict was returned for the defendant but this was appealed against—unsuccessfully before the King's Bench but successfully before the Court of Appeal—on the ground of misdirection. At the third trial the plaintiff was cast in damages £65. Truly an unfortunate, and to our mind an unmerited, issue for Mr. DARNELL.

Mr. C. E. ADAMS was the victim of unfounded reflections upon his professional reputation. He attended a Mrs. OLIVER, a widow, aged 63 years, who died from natural causes. A brother of the deceased swore an affidavit that Mr. ADAMS was in a hurry for the funeral to take place—burial, as a fact, occurred six days after death—and that there had been an administration of improper drugs or that the treatment had been incorrect. An order for exhumation was made. Dr. W. H. WILLCOX, official analyst to the Home Office, and Dr. F. J. SMITH, lecturer on forensic medicine at the London Hospital, gave evidence at the inquest. In their opinion there was neither the presence nor the signs of the action of a poison in the body. A verdict in accordance with the medical testimony was returned. Recently a sequel to the above came before the Probate Court. Mr. ADAMS had been left residuary legatee by Mrs. OLIVER. The will was disputed on the usual grounds but the court pronounced in its favour. The judge who heard the case animadverted upon the affidavit above referred to. The insinuation was all the more heartless since the person who made it said at the hearing of the Probate action that he did not charge Mr. ADAMS with doing anything wrong.

At Southwark county court a medical man was sued for damages. It was alleged by the plaintiff that the defendant had negligently left a portion of placenta in the uterus and thereby was responsible for an illness which supervened three weeks later. Expert evidence for the defence was called to show that the so called placental structure was probably a blood-clot, and that in any case the medical man acted just as a specialist would have done. The absurdity of the situation was instanced by the jury declaring that "they were not qualified to say whether the doctor was negligent or not," and yet on being sent back returned a verdict for the plaintiff, assessing the damages at £25. The judge on purely legal considerations refused leave to appeal, stating at the same time that he would unhesitatingly have found in favour of the medical man. The case presents a travesty of common sense and equity. It is passing strange that the law allows no redress in such an obvious miscarriage of justice.

Several instances of unfounded charges against medical men have been recorded. It was alleged against Dr. ALFRED ERNEST JONES, one of the medical officers of the London County Council, that during the exercise of his public duty he assaulted two mentally defective little girls. Dr J. KERR conducted an official inquiry and came to the conclusion that no reliance could be placed on the statements of the children. The parents nevertheless insisted upon police investigation. Stronger perhaps than a verdict of acquittal was the refusal of the magistrate to commit. As such charges made wilfully or through honest mistake may be difficult to rebut it is not only expedient but imperative where possible to conduct examinations of women and children in the presence of a third person.

Criminal Trials.

At the Central Criminal Court CHARLES FOXLEE pleaded guilty to publishing a false and defamatory libel concerning Dr. A. R. WADDELL of Potter's Bar. The presiding judge bound the prisoner over to come up for judgment if called upon, remarking that he thought he might have acted from an error of judgment rather than from malice. As the persecution was repeated after a considerable interval we are of opinion that the court showed very merciful consideration to the prisoner.

Were it not for the cruel and trying experience of Mr. ALBERT MAX SULLY the allegations expressed or implied by two women, mother and daughter, would have been notable only by their grotesqueness. The women were prosecuted at Kingston for giving false information when registering the birth and death of the illegitimate child of the younger. The name of the father was given as ARTHUR ALBERT MAX SULLY. The mother described herself as ALICE SULLY, formerly WRAY. She said that she had not accused Mr. SULLY, but the father of the child was a person named SULLY whose whereabouts she did not know. The statements were so thinly veiled that there could be but one interpretation of their meaning. Even on the charge in question the accused lastly, chromatolysis of the ganglion cells. Exposure of the eye to darkness gives the opposite conditions. Dr. CHIARINI does not regard the physical and chemical conditions to be of a nature on which a theory of vision can be based. They are, he thinks, only the expression of work done corresponding to the changes seen in muscles, nerves, and glands when they have performed their functions. The etiology of retinitis pigmentosa has been investigated by Dr. THEODORE STUDER of Berne, who corroborates Dr. WAGENMANN'S views on the influence of the retinal and choroidal circulation upon the nutrition of the eye. He shows that whilst section or simple atrophy of the optic nerve is followed only by sclerosis of the retinal vessels and degeneration of the nerve fibre and ganglion-cell layers, the pigment epithelium remaining normal, section of the ciliary vessels is speedily followed by atrophy of the retina and the migration of pigment into it. The pigment masses are partly composed of diffused pigment granules and partly of cells which Dr. STUDER regards as enlarged phagocytic pigment epithelial cells which have absorbed degenerated cells of their own kind. Dr. FRANCIS NAPIER has recorded no less than 63 cases of descending optic neuritis which he has strong reasons for believing were the result of pneumococcal infection. Many of these presented no apparent intra-ocular lesions, others showed hyperæmia, and the remainder well-marked characters of optic neuritis. Vision was impaired in all.

Tension of the Eye.

Professor F. BOTAZZI and Dr. E. STURCHIS are of opinion that the tension of the eye is directly dependent on the osmosis between the lymph of the blood and the aqueous and vitreous humours, which last two are isotonic. The hypertension in glaucoma is due to the disturbance of those relations. The osmotic pressure of the aqueous and vitreous is superior to that of the blood, the difference being, according to M. MANCA, such that whilst the lymph is equal to a solution of 0·824 per cent. of sodium chloride the humours correspond to a solution of 0·936 of sodium chloride.

Occurrence of Eye Disease in Families.

A series of interesting observations have been made by Mr. E. NETTLESHIP and Mr. C. WORTH in regard to the occurrence of various diseases such as cataract, glaucoma, and nystagmus in families, a subject that has hitherto received but little attention, though many scattered cases are recorded. Mr. NETTLESHIP'S articles appear in the report of the Royal London Ophthalmic Hospital and Mr. WORTH'S in the *Archives of Ophthalmology*. Mr. WORTH finds that of a large number of cases of myopia a family history was at least three times more frequent in the malignant or progressive than in the uncomplicated form.

Amblyopia.

Many children present in a minor degree a peculiar form of amblyopia which has been studied by Dr. J. H. CLAIBORNE. Such subjects are unable to learn to discriminate the letters of the alphabet or to pronounce the words which they form. In one case the word "now" was called "you"; the word "are" was named "ray"; and "made" was called "ham" or "man." The word Herbert was written from dictation by one patient as "Herbdred" and called "Purrain." He could do figures well and was generally intelligent and obedient. Such cases afford an explanation of what is sometimes regarded by teachers as examples of impenetrable stupidity, and allowance should be made in schools for the defective perception or want of harmony between the retinal and articulating centres.

Obituary.

The chief ophthalmologists whom death has removed have have been Dr. SWAN M. BURNETT of Washington; Mr. W. SPENCER WATSON, formerly surgeon to the Central London Ophthalmic Hospital; Dr. F. RYMOWICZ of Warsaw, formerly professor of ophthalmology in the University of Karzan; and Professor M. CZERMAK of Prague.

Bibliography.

Amongst the more important treatises that have been published in the course of the year may be mentioned the admirable volumes on the Pathology of the Eye by Mr. J. HERBERT PARSONS, the indefatigable former curator of the museum and now assistant surgeon to the Royal London Ophthalmic and University College Hospitals, which contain a vast fund of information drawn from the largest field of observation in this country; the several parts of the new edition of the well-known GRAEFE-SAEMISCH'S "Handbuch," which has been greatly augmented and modified; and the Eye and Nervous System, by Dr. WILLIAM CAMPBELL POSEY, and Dr. WILLIAM G. SPILLER.

Ophthalmologists and Opticians.

A report has been presented to the Société d'Ophtalmologie de Paris by M. PÉCHIN, from which it would appear that the encroachments of opticians on the department of ophthalmology are being felt still more acutely in France than in this country and have led the French Society to agree to the following propositions which the English opticians should read, mark, and inwardly digest, since it gives expression to views that are held by many who are engaged in the study and practice of the diseases of the eye in this country, and which, if represented to, and supported by, the profession generally might easily lead to enactments which would place opticians in a position very different from that which they hold at present. The conclusions of M. PÉCHIN that have been adopted by the Société d'Ophtalmologie are as follows: that whoever does not possess the diploma of Docteur en Médecine and who shall select convex, concave, cylindrical, or sphero-cylindrical glasses determined by any of the methods employed for the examination of the refraction of the eye shall be considered to practise medicine illegally and will therefore be liable to penalties; that the practice of ophthalmology under cover of anonymity or under an impersonal appellation, such for example as "the American Doctor," is interdicted; and that the society approves of all measures that tend to repress the illegal practice of medicine in general and of ophthalmology in particular. The society also thinks it right to call attention to the importance of applying certain clauses in the French code bearing on the practice of medicine by strangers in France. Finally, the society is opposed to the institution of a distinct and special order of ophthalmic physicians and surgeons. In the discussion which preceded the adoption of these resolutions Dr. LANDOLT remarked upon the impossibility of a tradesman knowing whether an affection of the eyes was trifling or serious and he was of opinion that every affection should be taken seriously; everything in the nature of surgical interference, however slight it may be, there can be no doubt exposes the operator, if he has no diploma, to punishment under the French law, but on the same ground the selection of lenses, far from being a simple affair, which the makers of spectacles never understand perfectly, is a clinical question to which a medical practitioner alone can properly give a reply. "What opinion will our successors entertain of us," he said, "if we surrender this important department of medicine to the opticians? Honourable business men will not be hurt if told that it is enough if they know their business perfectly and can grind and mount the glasses ordered by the ophthalmologist. They will then be our most valuable co-workers. They can do things we cannot, whilst they will allow us to do those for which they are not competent." With all this the majority of practitioners both in town and country will agree. Further, the optician who supplies spectacles to his customers cannot sentenced to six months' hard labour each for neglecting a son of the former aged five years. The child only weighed 16 pounds instead of about 40. He gained five pounds in one week after removal to the workhouse. There was no organic disease. The life had been insured since May, 1905, at a halfpenny per week and later at a penny per week.

Workmen's Compensation Act.

W. J. JONES, a labourer, sued his employers for damages at the Dover county court. He was ordered to slaughter an animal. A short time after he developed an illness which, according to the medical men who attended him, was malignant pustule. Mr. T. W. CARR, veterinary inspector of the county council, found the bacillus of anthrax in a kidney of the animal. Mr. CROWHURST, veterinary inspector to the Kent County Constabulary, found no signs of anthrax in the carcass and no bacilli in the kidney. It seems strange that a disease so easy of identification should have given rise to such conflict of opinion. The plaintiff was awarded compensation.

Poisons.

Ethyl chloride.—The ninth published fatality occurred on Feb. 20th. The victim was the Rev. W. H. ELEY, aged 67 years, who died in a dentist's chair whilst under the influence of the drug.

Bromoform.—Several fatal cases of poisoning by this drug have been recorded in *La Semaine Médicale.* Considering its frequent use in whooping-cough, and so on, it is clear tha tits administration requires full consideration.

Morphine.—A man, aged 43 years, died at Brighouse from an overdose. He had acquired the morphine habit in China. He habitually took 60 grains of the hydrochloride per diem, By prefixing "Dr." to his name in a telegram he obtained two gross of pills equivalent to 576 grains. The whole of the pills were taken within 24 hours of death, constituting probably the largest recorded dose for the period. The symptoms were tetanic rather than narcotic.

Laudanum.—At an inquest held by Dr. H. R. OSWALD at Lewisham it was elicited that a man, aged 57 years, who had been in the habit of taking laudanum to procure sleep, inadvertently swallowed the equivalent of 24 grains of opium with fatal results. As laudanum is scheduled in the second class of poisons as "a preparation of opium or poppies," there is little difficulty in the public obtaining large quantities. The Act, in our opinion, requires amending to include laudanum in the first class.

Chloroform.—Several fatal cases have been notified. A woman, aged 31 years, of stout habit of body but whose heart was apparently healthy, died whilst going under the anæsthetic administered for a dental operation. We drew attention to the necessity of rigidly carrying out all rules as to preparation of the patient and to the advisability of giving gas by the continuous method, ether, or ethyl chloride instead of chloroform where the conditions of the operation allowed.

Picric acid (or trinitrophenol).—A case of poisoning by this acid occurred at the Radcliffe Infirmary, Oxford. Used as a dressing for burns, it gave rise to constitutional symptoms and caused an eruption like measles. Picric acid combines with the hæmoglobin of the red blood corpuscles and displaces the weaker combination of oxyhæmoglobin, forming methæmoglobin. Curiously, the red deposit of the urine would not appear to be hæmatoporphyrin, methæmoglobin, or hæmatin.

Nitrobenzene.—At a biscuit factory at Truro a boy drank some almond flavouring, an "essence" which in reality was nitrobenzene. Considering the highly poisonous nature of the compound, causing symptoms like those of prussic acid, it ought to be scheduled. We drew attention to the "impudent disregard for public health by substitute-mongers."

Southern v. *Thomas and Skyrme.*

This case was heard a second time on Nov. 22nd and following days before Mr. Justice BIGHAM and a special jury in the King's Bench Division. The first hearing was at the Cardiff assizes in December of last year and the jury then failed to agree. At the second hearing the jury gave a verdict against both defendants with damages £100, but on Dec. 4th Mr. RUFUS ISAACS applied for a stay of execution pending an appeal. The judge granted a stay of execution for a fortnight, within which time, he said, the defendants must give notice of appeal. The case being thus *sub judice* we have refrained from comment upon the matter.

DENTAL SURGERY.

Education.

One of the most pleasing features of the year is the increase in the number of those qualifying to practise dental surgery. For several years the number of students registering at the General Medical Council has been diminishing; an upward tendency is, however, once more in evidence, and there are signs that dental surgery will continue to attract students in increasing numbers. During the year a most important alteration has been made by the Royal College of Surgeons of England in connexion with the mechanical training of the student. Previously a period of three years was required; this has now been reduced to two years, and other alterations have been made, so that the student can present himself for his first professional examination at the termination of his mechanical training. The change made will permit the student to devote more time to acquiring manipulative skill in operative dental surgery, an important point when it is considered that the greater part of his time in the practice of his profession is occupied in operative treatment rather than in the adjustment of dentures.

Papers.

Several papers on the deterioration of the teeth have appeared but most of them show a lack of appreciation of the underlying factors of this most important question, with the result that the papers have not advanced in any marked way the solution of the problem. The most interesting is probably that by Mr. L. C. BROUGHTON-HEAD[1] on the Influence of Sex in Relation to Dental Caries. In a paper read before the Burma branch of the British Medical Association Dr. T. F. PEDLEY drew attention to the influence of the natural and artificial methods of feeding infants in the production of palatal deformities. He pointed out that the act of feeding from the breast tends to develop the maxillæ and the mandible in the normal directions, whereas the act of feeding from a "bottle" tends to bring pressure on the lateral aspects of the bones and so to produce narrowing. Dr. PEDLEY is also of the opinion that many of the deformities of the jaws seen in after life, such as "protruding teeth" and "open bite," are in a great measure the result of the use of "baby comforters" and bottle feeding. A useful paper on syphilitic lesions of the mouth appeared in the *British Dental Journal* of May 1st from the pen of Mr. W. H. DOLAMORE, the writer suggesting a modification of the Suerson obturator which is frequently used in treating cases where much loss of tissue has occurred. A valuable paper by Mr. K. W. GOADBY on the Treatment of Pyorrhœa Alveolaris was published in the Transactions of the Odontological Society for March. An attempt was made to bring into definite groups the different varieties of alveolar suppuration met with and reference was made to the bacteriological examination of about 300 cases. The method of treatment by means of vaccines was discussed and an outline of cases were leniently dealt with, since they were let off with a fine of £2. Perhaps the justices thought the case too fantastic for severe punishment. We offered Mr. SULLY sincere congratulations on his deliverance from a false and heartless reflection on his character.

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[1] British Dental Journal, Oct. 1st, 1906.

A criminal trial of extreme interest to the public and the profession was that of Mr. G. R. ADCOCK, M.R.C.S. Eng., L.R.C.P. Lond., who was indicted at the Old Bailey for the manslaughter of Major JOHN NICHOLAS WHYTE, D.S.O. The deceased had the misfortune to fracture his spine whilst hunting. After orthodox surgical treatment he gave up medical men, sought the services of devotees of "Christian Science," and eventually died from blood poisoning as the alleged result of want of proper medical care and attention. Mr. ADCOCK, who had relinquished practice under the influence of "Christian Science," visited the deceased during his last illness. The question the jury had to decide was, "Did Mr. ADCOCK stand in the relation of medical attendant to patient to Major WHYTE?" They were unable to agree. On a subsequent day of the same sessions Mr. Justice BIGHAM, who tried the case, suggested to the Crown counsel that the evidence was not sufficient to bring home guilt to the accused. From this opinion we did not dissent, but inasmuch as the question of re-trial rested with the Attorney-General we did not consider it politic that the learned judge should have made a presentment in public, seeing that it was calculated to create prejudice in the event of a fresh trial being ordered. A *nolle prosequi* has been entered.

At the Central Criminal Court a man named C. V. VINE, a baker, pleaded guilty to unlawfully wounding Mr. DEVI DAYAL SASUN, said to be a Eurasian, practising at Walthamstow. It was proved in evidence that the prosecutor had behaved himself in a manner unbecoming a medical man and a gentleman; that in fact he had been the means of the prisoner's wife leaving her home. Mr. Justice GRANTHAM, who bound over the prisoner in the sum of £10 for the assault, which was a serious one, apostrophised Mr. SASUN in these terms: "If ever you do anything of the kind again and you get a thundering good horsewhipping it will serve you right."

At the sessions Mr. MCCONNELL sentenced a man described as FORBES, and who had designated himself as "Baron FORBES" and "Dr. FORBES," to 12 months' imprisonment for having committed wholesale frauds. The prisoner had personated Dr. FORBES of the Gold Coast and had thereby secured employment by several medical men and by a wholesale firm of druggists. We took occasion when commenting on this case to point out the desirability of thorough identification of applicants by medical men when engaging them as assistants. A somewhat similar case was investigated at the Warwick assizes. A man indicted as "JOHN DALE TUCKER" had been engaged as locum-tenent under the belief that he was Dr. WILLIAM ELDON TUCKER, entered in the Medical Register as practising in Bermuda. The prisoner, who was unqualified in this country, though he had attended medical lectures in Edinburgh and Glasgow, bought and sold practices and signed death certificates. In 1904 he was convicted for fraud and in 1905 for offences under the Births and Deaths Registration Act. He now received the well-merited sentence of three years' penal servitude. A quack named ABRAHAM LEVINE was sentenced at the City of London sessions to 15 months' hard labour for assaulting a girl, aged 15 years, who had been placed under his care for the treatment of epilepsy. Mr. PAUL TAYLOR at Marylebone fined "a particularly impudent impostor," who styled himself "Dr. MUSCHIR," £10 on each of three summonses and 10 guineas costs for signing certificates and prescriptions. The prosecution was conducted by Mr. TYRRELL for the Medical Defence Union.

The "Peculiar People" seem to have profited little by salutary lessons given them as to the legal relation in which they stand to children under their guardianship. It is to be hoped that the punishment of one of their number will awaken them to a sense of their responsibility and that they will see that their self-styled martyrdom runs counter to the behests of humanity. At the Central Criminal Court a man named COOK was awarded nine months' hard labour for neglecting to call in medical aid to two of his children who died, one from measles and the other from pneumonia. The sentence was exemplary, but, as we pointed out, he was bound over in 1898 on account of the death of another child.

Criminal Abortion.

The campaign against criminal abortionists has been very successful during the year and a large number of convictions have been obtained. At the Sussex assizes, before Mr. Justice LAWRANCE, a woman named LOWRY, and described as "Nurse ETHEL," pleaded guilty. The indictment charged the commission of the offence in six cases. The husband of the woman who made up the drugs for her ill-treated her, gave information to the police, and then committed suicide. The prisoner received sentence of 12 months' hard labour. At the Hampshire assizes PERCY BENNETT of Landport was convicted of administering drugs and performing an illegal operation. Three years' penal servitude was the punishment awarded. At Gloucester a man who had procured drugs for a young woman whom he had seduced was ordered four years' penal servitude. In none of these cases did death result from the treatment. Two curious cases were tried—one at Nottingham and the other at Leicester—in which two women were charged with selling pills the main ingredient of which was diachylon. Sentence of 18 months in one case and 12 months in the other was passed. Not only had the pills induced abortion or premature confinement, but the victims suffered from general symptoms of lead poisoning.

Inquests.

We have commented on several inquests held during the year. At Alford, Lincolnshire, the coroner's jury returned a verdict of suicide in the case of ANN POWELL who had suffered from delusional insanity. The deceased was found with a fracture of the skull, caused, probably, by a gorse-hook. We subscribed to the opinion of the medical man who examined the body that the injury to the skull could hardly have been self-inflicted. The body was considerably burnt, a fact illustrating a fashion in crime whilst recalling incidents in the Peasenhall and Norwich tragedies.

At an inquest held at Bermondsey it was suggested that a body had been put in the coffin before death had occurred. The evidence was not sufficiently strong to support the suggestion. The jury censured Mr. GEORGE BURTON of Wanstead for not seeing the body before certifying the cause of death. We pointed out that Mr. BURTON had complied with all legal demands, as he was not bound to verify by direct observation the fact of death.

At an inquest held at Lydd a conflict arose between the coroner and Mr. C. A. GAITSKELL with regard to the payment of a fee. The latter refused to give evidence without remuneration. Mr. J. A. PROCTER, who had attended the deceased but not immediately preceding death, was summoned to give evidence in the usual way. We were of opinion that it would have been better to give evidence and subsequently to summon the coroner for the fee.

On June 10th Dr. W. WYNN WESTCOTT held an inquiry on the body of a newly born child. As the cause of death was indeterminable by reason of advanced decomposition it was presumed that the child was stillborn. Such a verdict, though consistent with legal requirements, is unsatisfactory considering that probably the vast majority of abandoned newly born children are born alive.

Child Insurance.

At Willesden a man and woman living together were membrane of a specific substance or hormone which acts as a *chemical messenger to* all parts of the stomach and being absorbed into the blood excites the activity of the various secreting cells of the gastric glands. And so also Karl Mays, in discussing the action of trypsin, holds that in the pancreatic juice various preparatory, or at least antecedent, grades of trypsin are present, of which enterokinase *may be one. The close analogy* between catalysis and the action of a ferment has been pointed out by several observers. Thus Bunge remarks that they both effect the transformation of a complex atom from a labile into a stable condition. The phrase catalytic action is employed if the substance to which the action is ascribed is a known inorganic compound or an element but if it be an unknown organic substance it is called a ferment. We have no reason, he thinks, for establishing a distinction between the two. In all fermentation processes the splitting or disseverance of the molecules takes place with the absorption of water. The exceptions to the rule, as in the *cases* of the *splitting of* grape *sugar into* alcohol and carbon *dioxide*, and of the butyric and lactic fermentations, are all *only* apparent. Hitherto no unformed *ferment has* been *isolated*; all ferments are soluble in water, are precipitated from their solutions by alcohol *or* ammonium sulphate, and are redissolvable *in* water. *They* are generally soluble in glycerine and are precipitated from that solution by water. They often associate themselves with indifferent precipitates They all have an optimum temperature at which they act most powerfully, whilst certain ferments like pepsin are not diffusible through membranes. Starling is disposed to explain their action as a surface phenomenon, resembling that of animal charcoal or of silver on oxygen, or of platinum and palladium on hydrogen, and points out that they may act as intermediate agents, which may aid chemical action without supplying energy, as a ladder may assist a man in getting over a wall which he would not otherwise be able to surmount. In whatsoever way ferments act they are unquestionably widely distributed. A. Schennert and W. Grimmer find that in numerous seeds, as in wheat, rye, barley, vetches, oats, and peas, in rice, lupins, and raw potatoes, all important articles of diet, diastatic enzymes *are present that can* convert starch into dextrin and sugar into lactic acid, and that there is also a *proteolytic* ferment which *at* a *temperature* of 97 8° F. is capable of peptonising proteins. The lactic acid fermentation has been studied by E. Buchner and J. Meisenheimer, *the acetic fermentation by* E. Buchner and R. Gaunt, and the proteolytic action of fluids, obtained from the *liver and the* kidneys under very high atmospheric pressure, by Emil Aberhalden and Y. Teruнchi.

Circulation.

That sugar does not exist in the blood in a free state seems to follow from the experiments of Lepine and Boulud *that* it *is* not dialysable, whilst in abnormal blood it will readily undergo dialysis. W. Hutson Ford has demonstrated the presence of a minute proportion of alcohol in normal blood of all parts of the body, the evidence being the appearance of an emerald-green colour on the addition of Leconte's chromic acid solution to the final distillate and the direct combustion of the vapour of alcohol in a small glass balloon when the distillate was carefully made to boil. It appears probable that the alcohol is progressively oxidised in the blood under the influence of a ferment and in that case supplies a large proportion of the total amount of animal heat. Doyen and Kareff show that the injection of small doses of atropine into the vena portæ exerts an extraordinary power of retarding, though not of ultimately preventing, the coagulation of the blood. Y. Henderson of New York has devised a special form of oncometer by which the movements of the ventricle can be observed and has arrived at the conclusion that active dilatation of the heart does not occur. The researches of A. J. Carlson of Chicago show that, admitting that in the *mammalian heart under normal* conditions the negativity of the base is the initial electrical change in systole, it is still a fact that in hearts kept under such conditions as to permit of the normal rhythm and the auriculo-ventricular coördination continuing for hours the ventricular apex may contract before the base—that is to say, under conditions where the ventricular contractions are still clearly caused by the changes accompanying the *contraction of the auricles the ventricular contraction* begins, not in the part nearest the auricles, but in the part most distant. Hence, the description given in most of the text-books that the heart beat is a peristaltic wave of contraction passing from the great veins to the aortic end of the heart is incorrect and the conclusion may be drawn *that* the heart walls will conduct without contracting. Carlson's experiments were made upon the limulus or king-crab, but they *probably hold good* for the vertebrate heart and are supported by the observations of Engelmann on water rigor and those of Waller and Reid showing that in the dog the apex may precede the base in electronegativity. Other experiments also demonstrate that distilled water injures the power of contraction in the muscle as well as the power of *conduction* in nerves, yet the nerves retain their conductivity for some time after the muscle has ceased its rhythm and lost its excitability to artificial stimulation. The comparative physiology of the invertebrate heart has also been made the subject of numerous experiments by Carlson. He shows that in most cases, probably in all, the heart is *supplied with inhibitory* or augmentor as well as with accelerator fibres. The difference between the *invertebrate* and *the vertebrate heart tissues is only one of* degree, not a difference in kind. The *physiology of heart block* has been investigated by Joseph Erlanger and A. Hirschfelder, who point out that of the *two* views of the nature *of* heart block—one of which considers it to be due to the stimulation of an inhibitory mechanism whilst the other attributes it to the arrest, more or less complete, of stimuli which arise in the venous end of the heart—the latter is by their experiments rendered the more probable. W. H. Howell *has found* that a certain relation exists between cardiac inhibition and the inorganic constituents of the blood, for, experimenting on the terrapin *and frog, increase* in the proportion of potassium salts causes increased sensitiveness to vagus inhibition, but if in great excess, diminution. If in either of these animals the potassium salts were entirely removed *from the blood* inhibition was very greatly reduced, a circumstance suggesting that vagus inhibition is only possible when potassium salts in a diffusible form are present in the tissue. Increase of calcium salts in the terrapin only, *in which animal* the vagus does not affect the ventricle directly, *diminishes the* sensitiveness of the ventricle to vagus inhibition and at a certain degree of concentration *arrests* the action altogether. T. Lewis has particularly investigated the influence of the venæ comites on the pulse *tracing* and has been *able by* a modification of the ordinary *sphygmograph* to measure with some approach to accuracy venous pressure. He shows that dicrotism does not depend on *lowered blood* pressure alone, since it may be produced in a normal pulse with a simultaneous rise of *blood pressure ; it* depends on those factors which usually accompany lowered pressure, such as short, sharp heart systole and rapid output of blood from the periphery. Anacrotism can be produced by increasing peripheral resistance locally to a pressure at or about that present during diastole of the heart. Various details of the venous pulse in the jugular veins in man have been published by L. Bard and show that attention to them may reveal important information in regard to cardiac action.

Respiration.

So many large engineering works are now carried on at was described in which this method had been adopted. In the Transactions of the Odontological Society for June Mr. F. LAWSON DODD contributed a paper on the Relation of Dental Conditions to Pulmonary Tuberculosis. Mr. DODD's figures, obtained from an examination of patients at Mount Vernon Hospital for Diseases of the Chest and the Northwood Sanatorium, show that the oral conditions in most patients are very unsatisfactory and that too often they are neglected by those responsible for the treatment of the patient. Two interesting papers dealing with the historical side of dentistry have appeared, one by Mr. P. B. HENDERSON[3] entitled "An Outline of the Early History of Dentistry in England" and the other by Mr. D. HEPBURN on the Origin of the Royal Dental Hospital of London.

The British Dental Association.

A most successful gathering of the British Dental Association was held in London under the presidency of Mr. L. MATHESON. The feature of the meeting was the unique collection of odontomes and kindred tumours, which had been brought together from all parts of the world. A full account of the collection is to be published and will no doubt prove to be a valuable addition to pathology. From a general point of view the British Dental Association has done useful work.

Operative Dentistry.

The use of translucent cements for filling teeth has become more general, and although sufficient time has not elapsed to permit of a trustworthy opinion being formed of their value, nevertheless they seem to be under certain conditions a valuable addition to the materials available for filling teeth. Local anæsthesia for the extraction of teeth has gained favour and progress has been made with "pressure anæsthesia" in the treatment of sensitive dentine. It is pleasing to record that there has been a growing tendency on the part of dental surgeons to avoid so far as possible injury to the periodontal membrane in their operations. The methods in which operations were carried out in the past have no doubt been responsible in some measure for the periodontal disease so prevalent at the present time. The operation of crowning shows signs of being carried out with more judgment and the use of "bridge-work" has continued to fall into disfavour. In the treatment of irregularities of the teeth we notice that intricate and fixed appliances are being more resorted to and that unfortunately there is a growing tendency for practitioners to overlook broad principles in the methods adopted.

New Books.

The past year has not been enriched by many new books. A fifth edition of TOMES'S "Dental Surgery" has appeared, and Dr. J. SIM WALLACE has published a valuable little work entitled "Supplementary Essays on the Cause and Prevention of Dental Caries." In America we have to note that "The American Text-book of Operative Dentistry," edited by Dr. E. C. KIRK, has reached a third edition; and in Germany have been published "Zahnärztliche Technik," by G. PREISWERK, and "Lehrbuch der Orthodontie," by H. W. PFUFFE.

Obituary.

By the death of Mr. ALFRED J. WOODHOUSE at the ripe age of 82 years one of the few remaining links with the past has been severed. Mr. WOODHOUSE obtained the diploma of Licentiate in Dental Surgery of the Royal College of Surgeons of England in 1860. He always took an active part in dental politics and will be remembered for his splendid work in connexion with the Benevolent Fund of the British Dental Association. We have to record also the death of Mr. C. SIMS who was for many years actively connected with dentistry in Birmingham, of Mr. G. N. SKIPP of Sale, and of Mr. J. A. FOTHERGILL of Darlington. Mr. J. OAKLEY COLES who in his early years took an active part in dentistry, has also passed away. He was at one time lecturer on dental surgery and dental surgeon to the National Dental Hospital and he established the *Monthly Review of Dental Surgery*, a publication which subsequently became the journal of the British Dental Association Towards the close of the year Mr. H. HOWARD HAYWARD died at the age of 72 years. He was for many years on the staffs of St. Mary's Hospital and the Brompton Hospital. We have also to mourn the loss of Mr. JOHN ACKERY, for many years dental surgeon to St. Bartholomew's Hospital and a man who took a keen interest in all that appertained to the welfare of his profession.

PHYSIOLOGY.

Microscope and Histology.

The precision that is now demanded in microscopical work and the necessity for steadiness in all camera and micro-photographical reproductions cannot be better exemplified than in the arrangements devised and described by N. A. COBB of Honolulu in whose laboratory pillars of stone deeply imbedded in wells pass upwards through, and absolutely unconnected with, the several floors, thus securing absolute freedom from vibration. Messrs. ZEISS have constructed a very complicated stage for the microscope containing no less than three verniers, and a Hungarian chemist whose name has not become known is said to have produced lenses consisting of fluid contained in a glass capsule which possess many advantages in regard to magnifying power and the ease and cheapness with which they can be made. A turn-table driven by clockwork and adapted for turning rings and ellipses and for cutting cover-glasses with the aid of a diamond has been devised by A. FLATTERS and W. BRADLEY. The visit of the British Association for the Advancement of Science in the autumn of last year to South Africa seems to have afforded large opportunities for the study of the lower forms of animal life, and CHARLES F. F. ROUSSELET has contributed a good paper to the *Journal of the Royal Microscopical Society* on the rotifera of that wide region. Various methods of staining microscopical specimens have been published, such as the Leishman Romanowsky stain for chromatin; Heidenhain's for ossifying cartilage; Cagnetto's for the chromophilous cells of the hypophysis cerebri; and Leontowitsch's *intra-vitam* stain which displays Remak's fibres clearly and consists of thiopyronin; many others are to be found in the pages of the *Journal of the Royal Microscopical Society.*

Ferments

The subject of ferments or enzymes has attracted the attention of many observers; it is difficult to obtain a clear idea of the nature of their action. That the proteids when exposed to the action of pepsin in an acid solution or of trypsin in an alkaline medium before being converted into peptones pass through several stages is generally admitted but there seem to be reasons for believing that the enzymes themselves undergo some preparatory processes. Thus Professor STARLING considers that the first products of digestion act on the mucous membrane of the pylorus, leading to the formation in this membrane of a substance which, when absorbed into the blood stream, acts as a special excitant of the secretory activity of the glands. This substance may be termed gastric secretin or, as he proposes to name it, gastric hormone. The normal gastric secretion is, therefore, due to the coöperation of two factors: the first, and most important, is the nervous secretion brought about through the vagus nerves by the stimulation of the mucous membrane of the mouth or by the arousing of appetite in the higher parts of the brain. The second factor, which provides for the continued secretion of the gastric juice long after the mental effects of a meal have disappeared, is dependent on the production in the pyloric mucous atropine acting through the vagus exercise a powerful influence on the pancreas, rapidly increasing the quantity of the secretion. R. S. A. BERRY and L. A. H. LACK find that the appendix vermiformis is by no means a retrograde organ but that in man and many other animals it is a mass of lymphoid tissue.

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[3] British Dental Journal, April and May, 1906.

Brain.

The weight of the brain has been determined in 1414 Saxon subjects in the Pathological Institute at Leipsic with the results that in adult men from 15 to 49 years of age the weight was 1370 grammes and in adult women 1250 grammes. The brain weight constantly undergoes diminution in both sexes after the sixtieth year. Tall and athletic people have larger brains than small people.

Hypophysis; Thyroid Body.

A. GEMELLI finds that injections of bacterial toxins as well as of chemical toxins determine a hyperplasia of the pituitary gland and therefore concludes that it is antitoxic like the adrenals, thyroids, and parathyroids. He does not regard it as a rudimentary organ from the mode in which it comports itself histologically in hibernants (marmots). R. SILVESTRINI finds that extracts of the anterior lobe do not resemble the extract of the posterior lobe when injected into the circulation in producing at first depression and then notable increase of the blood pressure. G. FICHERA considers that the hypophysis is not indispensable to life. O. SCHULZ has been successful after many trials in preserving the lives of four dogs after removal of the thyroid gland for upwards of a year. In these animals no post-operative troubles occurred. An increase in the excretion of nitrogen and of phosphorus was observed in them.

Nerve; Muscle.

M. SOAVE reduces the chief proteinic substances in muscle to two—myosine and myogen—but a portion of the hexonic bases, such as hystidine and lysine, and especially arginin, are found free in muscle. F. KUTSCHER and A. LOHMANN have separated several new bases from Liebig's extract of meat and have applied to them the names of novaine, oblitin, ignotin, and neosin. The first-named, oblitin and novaine, have active properties producing, when injected into cats, salivation, vomiting, purging, mydriasis, fall of temperature, slowing of the heart's action, and fall of blood pressure, with strong contraction of the intestine. R. KRIMBERG has obtained a substance from muscle to which he has given the name of carnitin and states that it is allied to the cholin or betain series. C. S. SHERRINGTON has continued his interesting investigations on the innervation of antagonistic muscles. Sir VICTOR HORSLEY, in conjunction with R. T. SLINGER, has shown by an ingenious device that our orientation in space, apart from the impressions derived from the semicircular canals, is also dependent on those derived from our muscular, arthrodial, and tactile sensations, a view supported by ingenious experiments. The blind, as might be anticipated, possess the faculty of orientation in a high degree. The Croonian lecture delivered by Professor J. N. LANGLEY before the Royal Society on May 24th was devoted to the subject of nerve endings and on special excitable substances in cells, in which he made an attempt to determine the actual seat of the changes which accompany, or are the cause of, physiological activity. CLAUDE BERNARD by observation of the effects of curari, which poisons the nerve endings in muscle; of strychnine, which exerts a toxic influence on the central nerve cells; and of sulphocyanide of potassium, which poisons the muscle itself, showed that there was a difference of reaction in those parts in regard to toxic agents. Professor LANGLEY adduced good evidence that adrenalin stimulates by acting directly on sympathetic fibres distributed to unstriated muscle and gland cells, and he suggests that in each of the three great types of connexion of the peripheral end of an efferent nerve with a cell it is some constituent of the cell substance which is stimulated or paralysed by poisons ordinarily regarded as stimulating or paralysing nerve endings. The nerve ending is not essentially different from the nerve fibre. Hence, in the cell there must be one or more substances, receptive substances, which are capable of receiving and transmitting stimuli and capable of isolated paralysis, and also of a substance or substances concerned with the main function of the cell in contraction or secretion or, in the case of motor nerve cells, in discharging nerve impulses.

The observations of MOTT, HALLIBURTON, and EDMUNDS upon the regeneration of nerve fibres when cut favour the Wallerian doctrine that new nerve fibres are growths from the central ends of the divided nerve trunks. In the central portion the neurilemmal cells, possessing strong phagocytic and nutritive functions, provide for the nourishment of the actively lengthening axis-cylinders in the peripheral segment, if the axons reach the neurilemma but not otherwise *The neurilemmal cells supply* the supporting and nutritive elements necessary for the *continuous growth of the axons. The medullary sheaths* appear first near the point of division of the nerve and reach the distal part at a later period. Similar results have been obtained by JOHN CAMERON who lays considerable stress upon the reactions of the newly formed parts to colouring or staining agents. He considers that the axon rudiments of the optic and spinal nerves in becoming regenerated proceed from neuroblast nuclei situated in the retina and spinal cord, which with their products are at first achromatic but soon a partial chromatisation takes place, giving rise to the fully formed axis cylinders which again become finely fibrillated.

Secretion.

Experiments undertaken by SCHWENKENBECHER show that in a man weighing 70 kilogrammes, or about 149 pounds, taking little exercise and moderately well fed, the amount of perspiration is 20 grammes (309 grains) per hour. G. FRUGONI and A. PEA arrive at the conclusion that section of the spinal cord at any part of the cervical region causes oliguria but not anuria, and this is dependent on conditions of the circulation. A strongly glycosed endovenous injection not only re-establishes but augments the diuresis. They find that there is no point in the cervical region of the cord the lesion of which determines a definitive suspension of the renal function, nor consequently is there any centre indispensable for this function.

Development.

CRESSWELL SHEARER, of Trinity College, Cambridge, examining chiefly the development of the larval excretory organs of the serpulid eupomatus found in the gastrula stages of the egg of this worm delicate strands of protoplasm traversing the segmentation cavity and connecting one cell or one blastomere with another. In nearly all plant tissues the cell walls are traversed by delicate strands or intercellular bridges of protoplasm. It is almost possible to speak therefore of plants as multinucleated masses of protoplasm or syncytia. The observations of TORALD SOLLMANN show that the development of early embryos in birds is arrested by numerous poisons applied to the surface of the shell, whilst that of older embryos is not generally affected. Hatching is often, however, greatly delayed. As a rule, the action of the heart is rendered slower; some poisons, like chloral, nicotine, and quinine, prolonging the diastole, others like digitalin, physostigmine, strychnine, and veratrine slowing the systole. Nicotine was often noticed to reverse the direction of the contraction. The effects observed great depths below the surface of the earth and sea, such as the laying of piers, the construction of breakwaters, the examination of and raising, sunken, ships, and the deepening of mines, that it becomes of much practical importance to ascertain the physiological effects of great increase of pressure upon the economy and to obviate the injurious consequences that have been known to follow a sudden return to ordinary conditions. The subject has been investigated by LEONARD HILL and GREENWOOD. The Admiralty, it appears, does not allow its divers to descend to a greater depth than 120 feet, though it is known that the more daring pearl and sponge fishers of Ceylon and the East sometimes attain a depth of 145 feet, serious accidents, however, being not infrequent amongst them. LAMBERT, the famous diver employed by Messrs. SIEBE and GORMAN, salved £100,000 at a depth of about 160 feet. He was the man who stopped the flooding of the Severn Tunnel, traversing the dark tunnel, which was full of water, in a Fleuss dress, to a distance of a quarter of a mile from the shaft and closing the flood gates which had been left open, a very perilous undertaking. Experiments on animals show that every cubic centimetre of blood or tissue takes up at body temperature about one cubic centimetre of nitrogen under one atmosphere of pressure, two cubic centimetres under two atmospheres, three cubic centimetres under three atmospheres, and so on. Now, if the animals be suddenly restored to ordinary pressure or decompressed, the nitrogen absorbed is set free in the form of bubbles in the capillaries and tissue spaces, which by causing embolism of one or more vessels produces symptoms varying in kind and degree and often referable to the nervous system. If, however, decompression is accomplished slowly no ill effects are observed. HILL and GREENWOOD have subjected animals to a pressure of seven atmospheres without harm, if only during the reduction of the pressure a period of about 20 minutes were allowed for each atmosphere. GREENWOOD was exposed to a pressure in a steel cylinder properly fitted up with meters, electric bell, and telephone, which was equivalent to a depth of 210 feet. They think it possible that the depth may extend with safety even to 250 feet. During decompression it was found advisable to move in turn every muscle and joint of the body.

Whilst HILL and GREENWOOD have been engaged in researches on compressed air GUILLEMARD and MOORG have been occupied with the action of rarefied air. Such an inquiry is most opportune in view of the increasing tendency of the young and venturesome to scale lofty mountains and the persistent efforts that are now being made in many countries to accomplish aerial navigation and to make the air subservient to the locomotion of man. GUILLEMARD and MOORG spent five days on Mont Blanc at a height of 4810 metres and three days at 3050 metres (15 632 and 9912 feet respectively). The mean atmospheric pressure was 410 millimetres, the air was very dry, the temperature was 0° C., and the light was brilliant. The resulting anoxyhæmia occasioned a slight diminution of intra-organic combinations shown by the formation of an abnormal quantity of toxic alkaloids. These substances reacting on the kidney diminished the water, azotised matters, and salines of the urine, and their retention produced auto intoxication, the symptoms of which constitute the *mal de montagne*. Muscular fatigue, cardiac insufficiency, and renal or hepatic troubles, by augmenting the production of the toxins or by preventing their elimination, hasten the appearance and intensify the symptoms of mountain sickness. The economy reacts against the anoxyhæmia by an active new formation of blood corpuscles and against the intoxication by a urinary discharge comparable to the crisis of infectious diseases. It should therefore be borne in mind that subjects in whom the functions of elimination are impaired cannot without serious risk of uræmia be recommended to sojourn at great altitudes. A. AGGAZZOTTI of Turin has carried the subjection of the body to rarefaction to a much greater extent by placing himself in a properly constructed receptacle and exhausting the air till the barometric pressure fell to 122 millimetres, corresponding to an altitude of 14,582 metres or 48,608 feet. A monkey, indeed, was exposed to air so rarefied that it was reduced to that of the atmosphere at a height of 53,826 feet without harm—results that are remarkable when it is remembered that in 1875 CROCI-SPINELLI and SIVEL were killed in a balloon ascent which did not exceed 28,000 feet, and SÜRING and BERSON in 1901 both lost consciousness though freely supplied with oxygen at a height of 31,500 feet. A very important point was discovered by AGGAZZOTTI that, namely, the addition of carbon dioxide in the proportion of from 7 to 12 per cent. or more to the oxygen inhaled greatly aided its action as a revivifying agent, and this is in accordance with the observations of BOHR showing the important influence that the tension of the carbon dioxide in the blood exercises on the combination of oxygen with the hæmoglobin.

Inanition; Digestion of Food.

A good example of the advantage of combined work in a university laboratory is afforded by the experiments carried on by SCHULZ and his assistants at Jena on the effects in dogs of insufficient food. These experiments show that the animals do not suffer from the consumption of all the materials capable of supplying energy in the body, but from a kind of auto-intoxication presenting all the features of poisoning and disappearing almost immediately upon the administration of food. The annual Huxley lecture was delivered at the opening of the Charing Cross Hospital Medical School by Professor IVAN PAWLOW of St. Petersburg, who took as his subject the Response of the Salivary Secretion to Psychical Impressions. He applied to such responses effected through impressions made through the eye and ear the term "conditioned" reflexes as opposed to the ordinary reflexes which are unconditioned. An ingenious method of estimating the food values of different diets has been suggested by IRVING FISHER of Yale University. In this method the value of each kind of food is determined, not by weight, but by its calorific powers, which can be represented by a right-angled triangle, subdivided by triangles of different colour for the proteins, fats, and carbohydrates respectively, the sum being equal to 100 calories. H. ROGER, from observations on the movements of the intestines in rabbits, both normal and under conditions of experimental occlusion, finds that the peristaltic movements are greatly increased in a portion isolated by ligatures, but that there is no true antiperistalsis, for, as STARLING has shown, antiperistaltic waves do not involve an advancing wave of inhibition and must not be regarded as representing the exact antithesis of a peristaltic wave. The results of a carefully conducted set of experiments by VON LIEBLEIN in regard to the absorptive power of different portions of the small intestine for solutions of peptone show that there is little difference between them, which is of practical importance since it renders it, in operative procedures, unnecessary to preserve one segment rather than another. The experiments of ELLINGER and COHN have shown that human pancreatic juice is affected by the diet, a proteid diet increasing the proteolytic ferment and a fatty diet increasing the lipolytic, but a starchy diet in their case did not increase the amylolytic ferment. C. HUGH NEILSON and OLIVER P. TERRY, on the contrary, believe that a starchy diet has a distinct action in increasing the last-named ferment. The doctrine of PAWLOW that psychical or sensory impressions modify the constitution of the juice poured into the alimentary canal in a teleological point of view must be regarded as requiring further confirmation. MODRAKOWSKI of Lemberg reports that in his experiments very small doses of atrophy of the liver is patent—and Mr. TELFORD and Dr. FALCONER notice the fact that in their cases rickets existed. What is very striking when the literature of the matter is taken into consideration is the fact that the phenomena of the cases are associated with pathological conditions—perverted tissue function, delayed or even destroyed physiological activities of glandular cells, such as have been shown by Dr. ROAF and Professor MOORE to occur as an inevitable result of a certain tension of anæsthetics being allowed to act upon the proteid and lipoid constituents of the organism. It has yet to be shown whether anæsthetics possess a double danger—in the one case killing by destruction of the vital centres, as in respiratory failure, and in the other by a slower but none the less fatal manner through inhibition and ultimate annihilation of the physiological activities of the tissues concerned in nutrition, metabolism, and excretion. But we know that death through failure of respiration or cardiac inhibition is the result of over-dosage, indeed, during the year the work of M. J. TISSOT, published in the *Revue Scientifique* and noticed in THE LANCET of Nov. 3rd, p. 1232, has demonstrated that there is a certain and definite dosage of chloroform representing in its lower grades the phases of anæsthesia, and in its higher abolition of the respiratory function and death. So it would appear from Dr. ROAF and Professor MOORE's work and from the researches carried out by Professor C. S. SHERRINGTON and Miss SOWTON, Mr. VERNON HARCOURT, Professor T. G. BRODIE, and Miss WIDDOWS,[3] that the question of dosage is one of first importance, not only in regard to the safety of the conduct of producing and maintaining anæsthesia, but also as affording a safeguard to the patient against deleterious after-effects. Dr. H. G. WELLS[4] submits arguments in support of this view and explains these cases of delayed chloroform poisoning by the assumption that the anæsthetic actually exerts an inhibitory effect upon the proteolytic action of certain cell enzymes. This occurs only when a certain tension of chloroform is attained. Autolysis, however, persists and this with an accumulation of toxic material in the blood, since excretion by the liver and kidneys is impaired, leads to poisoning and that procession of phenomena which are now so well recognised in cases of fatal acidosis. M. NICLOUX[5] has also discussed the question of dosage from the experimental side and his conclusions may be cited. He gives 50 milligrammes of chloroform per 100 cubic centimetres of blood as an average anæsthetic dose, placing the limits of variation between 45 and 60 milligrammes, while the range of lethal dose lies between 55 and 70 milligrammes of chloroform per 100 cubic centimetres of blood. If these figures can be relied upon it will be evident that BEIT's zone of safety is a very narrow one, far less than has been generally accepted. M. GRÉHAUT[6] states that from experiments made upon dogs he is so impressed by the correspondence between the phenomena evinced and the doses given that he insists that in all cases methods of accurate doses should be employed and graduated according to the vigour and physique of the patient.

Professor G. A. BUCKMASTER and Mr. J. A. GARDNER in a communication made to the Royal Society (Nov. 1st) have also investigated this point and their results in the main agree with those of M. NICLOUX. They found that the anæsthetic dose and the lethal dose were in the case of cats only separated by a very narrow margin. Their experiments showed also that the chloroform was closely associated with the red corpuscles and only entered the plasma when pushed to an extreme extent and administered rapidly. In the case of dogs, however, it enters the plasma more readily when the anæsthetic is given in full doses. Dr. N. H. ADCOCK's research upon the Action of Anæsthetics on Living Tissues[6] dealing with the action of chloroform upon (*a*) isolated nerve, and (*b*) the frog's skin, is of interest, although of less practical importance. M. NICLOUX has communicated to the Obstetrical Society of Paris a note in which he shows that chloroform passes rapidly from the mother to the fœtus, the liver of the latter actually containing more chloroform than the liver of the mother, a fact explained by the greater amount of fatty material contained in the fœtal liver. It is a practical matter of importance that, as M. BUDIN asserts, the fœtus does not evince signs of chloroform intoxication. The milk, also, as shown by experiments upon goats, rapidly takes up chloroform and retains more than the blood, but very soon parts with it, the secretion not being injuriously affected. The work of Dr. GRANISSO[7] may be mentioned in this connexion. This observer has shown that the extent of corpuscular destruction depends upon the amount of chloroform inhaled and may be estimated by the urobilinuria which, in his experience with children, always follows the inhalation of this anæsthetic.

Pulmonary and Renal Complications.

BIBERGEIL[8] has analysed several thousand cases in which abdominal sections had been performed and has attempted to trace the cause of post-operative pneumonia or other lung complications occurring among the patients. His conclusions are of much interest. He regards the condition of the wound as of no causal significance as the pathway of infection is not that of the lymphatics; nor does he think that cold due to exposure of the patient or from irrigation of the abdomen is the determining factor. He also eliminates the anæsthetic and traces the source of trouble to auto-infection through aspiration of vomit or buccal secretions. The interference with respiration arising from bandaging, the posture of the patient, and the voluntary breath holding to avoid the pain associated with abdominal respiration all tend, he thinks, towards bringing about the results. Dr. G. E. ARMSTRONG in a thoughtful paper[9] traverses very much the same ground and arrives at similar conclusions. These and other observers admit that although the anæsthetic is not a determining cause it is of importance in that when an undue quantity of the anæsthetic is given or a faulty method adopted the patients are more prone to vomit, to secrete large quantities of mucus, and to remain unconscious for an unnecessary period after the completion of the operation. It is pointed out that when lavage is adopted and the anæsthetic is skilfully administered by an experienced person; when the posture of the patient is properly adjusted and oral asepsis insured the liability to lung complications is greatly reduced. An important paper on this subject has appeared by Dr. LE DENTU.[10] His conclusions are similar to those given above and it is noteworthy that he says that his experience leads him to attach more importance to the way in which the anæsthetic is administered than to the nature of the anæsthetic itself.

Professor W. H. THOMPSON has conducted a prolonged and careful research upon the influence exerted upon renal activity by anæsthetics. Chloroform, he finds, when given in a manner to produce light anæsthesia increases the volume of the urine but decreases the volume when profound narcosis exists. The diminution of urine may even culminate in suppression. The total nitrogenous excretion is also lessened and in a greater degree than the volume of urine, so that urine secreted during narcosis is more dilute and contains less nitrogenous material than is are probably due to the action of the poison on the muscles rather than on the nerves.

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[3] Brit. Med. Jour., July 14th, 1906.

[4] Journal of the American Medical Association, Feb. 3rd, 1906.

[5] La Presse Médicale, January, 1906.

[6] Le Bulletin Médical, May 3rd, 1906.

[6] Proceedings of the Royal Society, B, vols. lxxvii. and lxxviii.

[7] Riforma Medica, May 19th, 1906.

[8] Archiv für Klinische Chirurgie, Band xxiii., Heft 27.

[9] Brit. Med. Jour., May 19th, 1906.

[10] Archives Générales de Médecine, March 27th, 1906.

Charrin and Goupil, in an article in the *Comptes Rendus*, have adduced some facts which are suggestive of a glandular function in the placenta, evidence having been obtained that it contains a glycolytic agent producing alcohol from glycose and that it also possesses a proteolytic power. J. E. Lane-Claypon and E. H. Starling have made experiments to determine whether the growth and activity of the mammary glands can be artificially induced by the injection of fluids obtained from the ovaries, placenta, uterus, and fœtus into the skin or peritoneal cavity of a virgin rabbit. They thought that the specific mammary hormone might be produced from a precursor or mother substance in some of these organs. At present, however, though the existence of such a hormone proceeding from the fertilised ovum is rendered probable, it is uncertain whether the amount of this substance increases with the growth of the fœtus. Lactation is due to the removal of this substance, which must therefore be regarded as exerting an inhibitory influence on the gland cells, hindering their secretory activity, and furthering their growth.

Lectures.

The seventh Huxley memorial lecture of the Anthropological Institute was delivered by Professor Flinders Petrie on Nov. 1st on Migrations in their Anthropological Aspect. He showed that whilst immigration into England was taking place at the present time the effects could be better followed out in Egypt where the changes occurring in ten thousand years could be traced. History, supported by skull measurements and aided by inquiries directed to the colour, physiognomy, language, and culture, demonstrated that no less than 13 changes could there be followed, the general tendency being that the more capable races supplanted those who were less capable; and he strongly maintained that the ideals of the present-day such as the equality of wages, maintenance of the incapable by the capable, equal opportunities of life for children of bad stock as well as for those of good stock, and the exclusion of more economical labour were the surest means of national extinction, whilst, on the contrary, the only way to save a country from immigration was to increase the capabilities of its inhabitants by thorough weeding so that other races could not get a footing by competition or by force.

Obituary.

Lionel Smith Beale, F.R.S., a well-known physician, who was formerly president of the Royal Microscopical Society, died on March 28th, 1906.

Bibliography.

Recent works in physiology are:—A Text-book of Physiology, by Professor W. H. Howell. Principi de Fisiologia: I. Chemica Fisica, by F. Botazzi. Chemistry of the Proteids, by Gustav Mann. Recent Advances in Physiology and Bio-Chemistry, by Leonard Hill. Physiology of the Nervous System, by J. P. Morat, translated by H. W. Syers. Recent Work on the Digestive System, by Professor E. Starling.

It may be mentioned that a professorship of Protozoology has been established at the University of London and that Mr. E. A. Minchin has been appointed to it, with as his assistants Dr. J. D. Thomson and Dr. H. M. Woodcock. Dr. D. Noel Paton has been appointed professor of physiology in the University of Glasgow.

ANÆSTHETICS.

General Anæsthetics.

A considerable amount of work has been accomplished during the past year and much light has been thrown upon the subject of the action of anæsthetics. This is true more particularly in the case of chloroform.

Chloroform.—Ether.

Professor F. J. Keeble, in the course of a lecture delivered before the Society of Anæsthetists in February, an abstract of which appeared in The Lancet, showed that anæsthetic vapours ultimately arrested movement and destroyed function in the lower forms of life. Chloroform in this respect is more potent than ether or other anæsthetics. Thus, recent observations have confirmed the classical research of M. Jolyet and M. Blanche who demonstrated that plant life was affected by narcotic vapours in a way similar to that which obtains in the case of animals. In this connexion a paper by Mr. A. Schapiro[1] may be noticed. Young mammals were subjected to the continuous action of chloroform and the effect on their growth was noticed. Delayed development resulted, but this was compensated by abnormal growth as soon as the animals were freed from the effect of the anæsthetic. The ultimate growth of the kittens which had been influenced by the anæsthetic equalled that attained by the animals in the control experiment. That the tissues of the body are profoundly affected by the inhalation of anæsthetics has been recognised for a long time and the truth of this has been brought into prominence by the work of Dr. H. E. Roaf and Professor Benjamin Moore These observers, in the course of communications made to the Royal Society and noticed in The Lancet, have shown that chloroform and other anæsthetics possess the power of forming segregations with proteids and lipoids, with the result that the chemical activity of the tissues undergoes retardation or even passes into abeyance. The point of interest is that this limitation of physiological activity varies directly with the tension of the anæsthetic in the tissues. Thus it is seen that both in the case of unicellular organisms and in that of the higher and complex tissues, anæsthetics are able to retard and ultimately to abolish physiological activity.

Complications following Anæsthesia.—Delayed Chloroform Poisoning.

Many of the researches and investigations which have been carried out during the past year throw some light on the causes of deaths following inhalation of chloroform and other anæsthetics which appear to be associated with acetonuria and the presence of diacetic acid in the urine. Some of the earliest papers upon this subject appeared in The Lancet and were written by Dr. Leonard Guthrie. Recently[2] Mr. E. D. Telford and Dr. J. L. Falconer have published some cases of delayed chloroform poisoning and have reviewed the subject from the clinical side. Papers dealing with this subject have appeared by Mr. Lewis Beesly, J. Arnheim of Berlin, and Mr. D'Arcy Power, as well as an excellent summary in the *Therapeutic Gazette* for August. Although cases of delayed chloroform poisoning are rare, extremely so when it is recollected how very large is the number of patients who take chloroform, they yet require a close scrutiny and the papers mentioned as well as numerous others which have appeared in the continental press merit careful study. The condition of the patients appears to be associated with acidosis or acid intoxication. It is pointed out that acetonuria is a common, if not constant, sequela of the inhalation of chloroform and is related in some way with the perversion of the metabolism of carbohydrates and with oxygen starvation. Acute and chronic acid intoxications are recognised, but as yet it is impossible to say what determining cause or causes are at work in bringing about the fatalities from delayed chloroform poisoning. Dr. Guthrie, an accepted authority upon the subject, suggests a pre-existing perversion of nutrition—the association by similarity between these cases and those of acute yellow operation, and so it is frequently not easy to calculate the dose of anæsthetic for injection in any given case. He meets this difficulty by leaving the injection cannula in place and reinjects if the necessity arises for so doing. We can only note the papers of D. VARVARO,[24] LAZARUS,[25] MELTZER,[26] and FREUND,[27] all bearing upon this subject. Stovaine has been used in ear and throat surgery with success by Dr. DAN MCKENZIE, but many observers have found that this analgesic and novocaine and alypin are liable to produce severe irritation and even gangrene if allowed to act for long upon mucous or subcutaneous structures. KOELLNER's experience with alypin in ophthalmic practice is favourable and MARCHETTI agrees with him. H. BRAUN, who has done so much for local and intra-spinal methods of anæsthesia, has introduced, and speaks strongly in favour of, novocaine, which he combines with suprarenin. He compares it with alypin and stovaine. With regard to the power which suprarenal extracts are stated to possess, in virtue of which they render cocaine and allied bodies less toxic, Dr. BERRY of New York has investigated the question and has arrived at a less favourable opinion of the safeguard so afforded. Indeed, he points out that the suprarenal extracts, unless very cautiously used, are liable to produce further toxæmia.

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[1] Journal of Physiology, February, 1906.

[2] The Lancet, Nov. 17th, 1906, p. 1

It is impossible to do more than to epitomise the wide literature upon spinal injection. The records differ very much and results advanced as being favourable include several deaths—FREUND, for example, had a death in 209 cases,—suggest limitations, and give a somewhat alarming list of after-effects. These deaths are, we are assured, the result of faulty technique, but the facts remain and accentuate the need of caution before the adoption of methods which appear neither to be free from danger nor to eliminate severe after-suffering to the patient. CHAPUT, PREINDLSBERGER, PENKERT, and BARDET have each shown, in speaking of special analgesics, the need for extreme care and further investigation before it can be said that the methods and drugs employed are capable of being regarded as safe or wholly trustworthy.

THE NAVAL AND MILITARY MEDICAL SERVICES.

The End of 1905 followed by the great Political Change of 1906.

The end of 1905 found the nation in the throes of a wholesale reorganisation of its army system and somewhat bewildered by several radical and comprehensive schemes of army reform, army sanitation, the organisation and provision of a medical reserve, and, with a view to increased efficiency, the systematic and progressive development of the medical services on their then existing lines. Nor will it be forgotten that towards the end of 1905 came the resignation of Mr. BALFOUR and the accession of Sir H. CAMPBELL-BANNERMAN to the post of Prime Minister, with the appointment of a new Ministry and of Mr. HALDANE as the new Secretary of State for War. These changes were soon to be followed by the decisive results of the General Election in favour of the present Government. There still remains at the end of the present year, as everyone knows, almost everything to be done in these respects, and notwithstanding the enunciation on the part of the Government of numerous vitally important principles, together with several indications of the direction which these will probably take, the nation must nevertheless be content to wait until the year 1907 for the promised declaration of what is to be our future army and navy policy. The task of formulating any national army scheme suitable to the nature and complex requirements of this country is confessedly one of enormous difficulty. There has not, however, been any lack of expression of opinion in regard to the medical requirements entailed by modern systems of warfare and as to the absolute need for our preparedness for war if we are to escape a recurrence of some of these blunderings and reprehensible breakdowns which might have been prevented had they been foreseen and provided against. We wish we could believe that the truth of this has even yet been fully realised.

The Director-General and the War Office.

Let us take, for example, the official position of the Director General of the Army Medical Service. That service, from its special nature, duties, and responsibilities, is not as other departments. It is not enough that its head may on occasion be summoned and consulted as an expert by a war council. He should, in our opinion, be a member of that council and thus should have the opportunity of representing the views of the medical service with all the influence attached to such a position at a time when these opinions would be of real use. In June last Mr. BRODRICK, under the heading of "Medical Science and Military Strength," and Sir FREDERICK TREVES in connexion therewith, published some very pertinent communications in the *Times* as to the limitations under which medical science labours in actual war. These authorities fully recognised that the views and recommendations of the Director-General regarding the sanitation and health of the army in preparation for war should be of a direct and personal kind with the Army Council and not have to be filtered through the heads of any military department in order to reach it.

The Question of a Medical Reserve.

There is also the question of a medical reserve, and especially for war. Have all the needful arrangements in this respect yet been put upon any adequate and satisfactory footing? We cannot regard the Royal Warrant of Oct. 23rd last,[1] containing the revised regulations respecting appointment to the Army Medical Reserve of officers, as otherwise than a partial and tentative effort to do so; and we are meanwhile hopefully content to await Mr. HALDANE's declaration of his army scheme for further information. In connexion with this subject of army medical expansion in war in relation to volunteer training we may refer to Sir ALFRED KEOGH's address to the Manchester companies of the Royal Army Medical Corps in November last, in which the Director-General stated some of the problems of the Medical Service with which he had to cope.[2]

The Royal Navy Medical Service

In a leading article on the Health of the Royal Navy which appeared in THE LANCET of Jan. 20th, p. 164, we said that sufficient time had not elapsed to show what had been the full effect of the improvements in this service in affording increased advantages and a better scope for the pursuit of scientific work. We were, however, enabled to point to the very satisfactory health conditions of the navy as recorded in the last published statistical report and to the excellence of the professional papers in its appendix as strong evidence of the valuable work that was being done by naval medical officers, and especially perhaps in regard to Mediterranean fever. With all that concerns this disease the medical officers of the Mediterranean fleet and those of the army stationed in local garrisons are unhappily only too well acquainted. It was evident, we declared, that naval medical officers are ready to avail themselves of the increased means and opportunities of special and systematic research which have of late been introduced into their service and that many of them possess the necessary scientific qualifications for successfully turning these opportunities to the best account.

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[24] [illegible] June, July, and August, [illegible]

[25] [illegible] April, [illegible]

[26] Medical Record of New York, August [illegible]

[27] [illegible] October, [illegible]

[1] THE LANCET, Dec. [illegible], and March [illegible]

[2] THE LANCET, Dec. [illegible]

should under normal conditions. In the period following the return to consciousness the volume of urine is greatly increased and the increment reaches its maximum in three hours. Professor THOMPSON has noted a correspondence between the blood pressure, the urinary outflow, and the volume of the kidney. One of the phenomena of prolonged narcosis is marked diminution in the volume of urine, and with this is associated an exudation of leucocytes into the renal tubules. The chlorides are increased and there is occasional albuminuria, while the presence of reducing agents other than glucose can be detected. Comparing these results with those found in the case of ether we learn that under ether the results are similar, but suppression of urine is more common. In other respects the effect of ether appears to be connected more closely with variations in blood pressure than with the anæsthetic *per se*. As we should expect, the effects of combinations of ether and chloroform reveal similarities to these anæsthetics, in some cases resembling the effects of chloroform and in some those of ether. These results confirm much of the work of earlier experimenters and again emphasise the truth that it is the amount of an anæsthetic which leads to harmful results rather than its specific action. In this connexion may be mentioned two papers, one written by Dr. PAUL CHAPMAN and the other by Dr. A. G. LEVY, which deal respectively with the percentages of chloroform given off when Junker's inhaler is employed, or when the anæsthetic is dropped upon, and allowed to evaporate from, woven fabrics. Several papers treating of the practical side of the administration of these anæsthetics have appeared. Thus HAGEN[11] reports 700 cases of chloroform-oxygen narcosis by the Roth-Dräger method which allows a certain measured quantity of chloroform to be evaporated in an atmosphere of oxygen and inhaled by the patient. He speaks favourably of the method. The rectal etherisation of patients has been again revived by a Russian military surgeon, Dr. KRUGILINE,[12] and he states that if care is taken to make sure that no intestinal lesion exists, that the colon has been thoroughly cleared before the vapour is made to enter, and that no liquid ether finds its way into the bowel, no unfavourable complications need be apprehended.

Dosimetric Precautions.

As a reaction against the reckless over-dosage by ether which has led many continental surgeons to discontinue the use of that anæsthetic various methods which may be grouped under the heading of dosimetric have been introduced. Of these that suggested by SÜDECH[13] has been carefully worked out. The ether is given drop by drop and sensation is tested. As soon as it is judged that insensibility has been produced the operation is commenced. Dr. MYRON METZENBAUM[14] has adopted the drop method and regards it as more satisfactory since it is followed by fewer deleterious effects than is the case when ether is given from a closed or semi-closed inhaler. Dr. J. GWATHMEY[15] advocates the plan associated with his name which consists in supplying the vapours of chloroform and ether, both being carefully warmed and mixed with air or oxygen. He regards accurate dosage as being fully secured by his apparatus.

Heart Massage.

THE LANCET has published from time to time particulars concerning cases in which heart massage by Prus's and other methods has been carried out. M. LENORMANT[16] in a careful review of the 25 recorded cases, pleads the value of the proceeding in desperate cases of heart failure under anæsthetics. He regards the best plan of gaining access to the heart to be by opening the abdomen and compressing the heart from below through the diaphragm. It is true, he asserts, that only four successful cases are known, and of these possibly three might have recovered without heart massage, yet the remaining 17 afford only negative evidence and should not be allowed to discredit the proceeding. The method is mentioned by Mr. G. S. HAYNES as having been tried but without effect upon a patient who died under chloride of ethyl in Addenbrooke's Hospital.[17] It has often been pointed out in the pages of THE LANCET that patients frequently die *under*, but not *from*, chloroform. A curious example of this has been reported by M. GUINARD[18] to the Society of Surgery of Paris. The patient died, it was assumed, from chloroform poisoning but the necropsy revealed an embolus in the ventricle which had been detached from the hypogastric vein during examination by manipulation.

Ethyl Chloride.

A large number of papers dealing with this anæsthetic have appeared. Dr. E. H. EMBLEY has investigated its pharmacology in a communication made to the Royal Society (June 28th). Ethyl chloride, he finds, is a cardiac and vaso-motor paralysant acting similarly to chloroform but differing from that anæsthetic in that it does not seriously impair the heart's spontaneous excitability. Although it increases vagal action it is less liable to kill through vagus inhibition of the heart, since that organ, retaining its excitability, is able to escape from the inhibition. This, however, can only occur when the heart is sound; in patients with failing circulation and in morbid states Dr. EMBLEY regards chloride of ethyl as dangerous. Respiratory failure, he thinks, is usually secondary to circulatory failure and consecutive to fall of blood pressure. A death under this anæsthetic, reported in THE LANCET of March 3rd, p. 615, led to much discussion. A similar occurrence at Addenbrooke's Hospital has been reported but in this case the ethyl chloride-ether sequence was employed. Mr. H. J. FAIRLIE CLARKE[19] records a case of serious danger with ethyl chloride which seems to bear out Dr. EMBLEY'S contention. A prolonged discussion upon the death-rate under this anæsthetic followed a luminous paper by Dr. W. J. MCCARDIE[20] which seems to indicate the need of more care in the use of the drug. Large doses are certainly dangerous and even small ones, unless employed by those who are thoroughly cognisant with the peculiarities of ethyl chloride, are by no means free from danger.

Spinal Anæsthesia and Local Analgesia.

Many papers have been written during the year upon the use of various drugs for injection into the spinal canal; especially have stovaine, novocaine, and alypin received attention. Mr. G. L. CHIENE[21] describes the use of stovaine with hemisine. Mr. CHIENE appears to have met with few after effects, although he mentions rise of temperature and some neuralgia. On the other hand, BAISCH[22] states that if an absolutely safe dose of stovaine is employed the resulting anæsthesia is insufficient, and if larger quantities are employed severe headache and persistent vomiting occur. Many writers refer to the obvious disadvantage of the patient being conscious during a long and serious operation, and BAISCH suggests that preliminary injection of scopolamine and morphine should be made before spinal injection is attempted. KOENIG of Freiburg also has adopted this plan. Mr. H. P. DEAN[23] advocates the employment of spinal injection in cases of acute abdominal diseases. He, like others, has found it difficult to estimate the probable duration of an of war, what has to be safeguarded is the water-supply if we would prevent the occurrence of those epidemics of an explosive nature with which the past history of war has unhappily familiarised us.

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[11] Münchener Medicinische Wochenschrift, May, 1906.
[12] Der Frauenartz, December, 1906.
[13] Münchener Medicinische Wochenschrift, October, 1906.
[14] Journal of the American Medical Association, Nov. 17th, 1906.
[15] Ibid., Oct. 27th, 1906.
[16] Revue de Chirurgie, No. 3, 1906.
[17] Brit. Med. Jour., March 10th, 1906.
[18] THE LANCET, Jan. 6th, 1906, p. 64.
[19] Brit. Med. Jour., March 24th, 1906.
[20] Ibid., March 17th, 1906.
[21] THE LANCET, Jan. 27th, 1906, p. 227.
[22] Deutsche Medicinische Wochenschrift, Sept. 20th, 1906.
[23] Brit. Med. Jour., May 12th, 1906.

The Japanese Army and Navy: Disease and Casualties: Enteric Fever.

The remarkably successful results achieved by the Japanese in their war with Russia during 1904–05 will cause their official medical history of that war when published to be of the greatest interest and importance to all medical officers. We hope that in the statistical section of that history the strength will always be stated for the purpose of the ready calculation and comparison of ratios. We may meanwhile call attention to our reports of three lectures on the preservation of health amongst the *personnel* of the Japanese army and navy delivered at St. Thomas's Hospital this year by Baron TAKAKI, late Director-General of the Medical Department of the Imperial Navy; the first of these was published in THE LANCET of May 19th (p. 1369). In connexion therewith we may also refer to some excellent articles on the medical organisation of the Japanese by Lieutenant-Colonel W. G. MACPHERSON, R.A.M.C., who was officially attached to the Japanese army (*vide Journal of the Royal Army Medical Corps* for March). The same journal for December contains the translation of a very important address on the medical services in the Russo-Japanese war delivered before the Japanese Medical Association at Tokio by Surgeon-Lieutenant-General M. KOIKE, M.D., Director-General of the Japanese Army Medical Service. One of the most striking features of that war was the enormous number of killed and wounded. Some 20 battles, big and small, were fought, causing 220,812 casualties; whereas the total number of sick is given as 236,223, of which 27,158 were infectious cases. The Japanese medical and sanitary preparations in *personnel* and *matériel* were on a colossal scale. The proportionate ratio of deaths from wounds as compared with the ratio of deaths from disease is unprecedented in war and speaks volumes for the completeness and efficiency of the Japanese sanitary and medical arrangements. It is somewhat difficult, however, to get at the facts connected with the hygienic state of all the Japanese armies in the field. According to some accounts (that published by Mr. ASHMEAD BARTLETT on the siege and capitulation of Port Arthur for example), the insanitary state of affairs in the camps of the besieging Japanese outside Port Arthur is very adversely remarked upon, and Mr. RICHMOND SMITH, in his work on "The Siege and Fall of Port Arthur," while extolling the skill of the Japanese surgeons and the fine equipment of their hospitals, says in effect much the same thing. The individual hygiene of the Japanese soldier is admirable; he is naturally very cleanly as to his person and extremely careful about his drinking-water. In these respects, too, he is well looked after and the regulations are strictly enforced. That there was something racial or dietetic in the absence of enteric fever and other camp diseases in the army around Port Arthur seems probable. The Russians inside Port Arthur appear to have suffered severely from enteric fever.

PUBLIC HEALTH.

In many ways the year that has passed has been a disappointing one in a public health sense, although it is conceivable that the future may show it to have been a period of latency or incubation antecedent to an eruption of legislative measures. The year has been characterised—if, indeed, it can *reasonably be held to have* presented any special features—by the diffusion of certain health principles amongst the public, without whose coöperation all our aspirations are not unlikely to hang fire or to abort. When we reflect upon the hopeless ignorance and indifference which not infrequently obtain with local authorities in the matter of the public health and the absurdly small pay at which the services of sanitary officers in rural districts are valued, we begin to appreciate what an enormous leeway has to be made up before even county councils—the most *hopeful of our local administrative bodies*—can be got to take a proper view of their public health possibilities and be placed in a position enabling them better to fulfil them. All this indifference naturally finds its expression or echo in the national assembly—i.e., in the relative apathy of both Houses of Parliament—and it may certainly be said (with entire freedom from the least political bias) that the present House of Commons has so far betrayed a singular absence of either enthusiasm or interest in public health questions. We had hoped that that new section of the House which represents manual labour as distinguished from labour *of other types would have succeeded* in giving greater prominence to an aspect of administration which affects its class in a very intimate fashion not only as regards housing, factory, and workshop conditions, but also with respect to the purity of food and the medical examination of school children. But other interests which apparently are regarded as affecting the labouring classes more deeply have intervened and public health legislation is practically at a standstill. Apparently, too, the President of the Local Government Board has been unsuccessful in instilling into his colleagues in the Cabinet that *enthusiasm in public* health questions with which he is himself animated.

But notwithstanding this somewhat pessimistic retrospect, forced upon us as it is by the hard logic of facts, there are, we venture to hope, signs that the country is slowly making up its mind to grapple in a broad, statesmanlike fashion with some of the conditions which are seriously, and in a degree which is not materially diminishing, sapping the strength of the nation and, perhaps, on the whole, the most significant indication of this awakening is the interest which has been recently manifested in the subject of

Infantile Mortality.

The important conference which took place upon this subject in the month of June under the presidency of Mr. JOHN BURNS should have the effect of stimulating local authorities throughout the country to further and more comprehensive action. Mr. BURNS told his audience that, roughly speaking, 100,000 infant lives were *being* sacrificed every year through neglect, carelessness, and ignorance, and that in the first year of child life there are as many deaths as in all the other years taken together up to the age of 18. If, he added, men and women were able to extend the working period of their lives it devolved upon them to help those whom they brought into the world. While wealth increased and prosperity extended, the weakest, the smallest, and the most dear bear the burden of death. Whatever might be the chief cause of *infantile mortality*, not the infant but society was to blame. Fortunately, from the point of view of etiology, there is administratively almost unanimity of *opinion* that improper feeding and maternal neglect are at least two of the most important factors in the problem. The introduction of the milk *depôt has been* a force which is gradually in some places bringing about a better state of affairs, not so much by the supply of sterilised milk, concerning the merits of which there is a difference of opinion, but, as Dr. G. F. MCCLEARY pointed out at the June conference, by *directing* public attention to the necessity for a proper milk-supply for infants. Such a supply in its natural state is alone to be derived from the source where nature has placed it—from the human mother's breast—and the more that the milk depôt can succeed in bringing this elementary truth home to the mother the greater will prove its power for good If, as Dr. MCCLEARY

The Position of the Royal Navy Medical Service.

We must not here omit to call attention to the report of an interesting introductory address by Sir LAMBERT ORMSBY, past President of the Royal College of Surgeons in Ireland, delivered at the opening of the winter session at the Meath Hospital and County of Dublin Infirmary, of which Sir LAMBERT ORMSBY is the senior surgeon. In this address the position of the Royal Navy Medical Service is reviewed in very stringent terms. While we must all admit that there are defects in that service about which we are practically quite in agreement with Sir LAMBERT ORMSBY, there are others which are, we think, susceptible of reasonable explanation.

The Coöperation of the Civil and Military Branches of the Medical Profession in Peace and in War.

In continuation of previous efforts and in striving to develop this object the Director-General of the Army Medical Service in February last delivered an address at the West London Hospital to inaugurate a course of lectures on Army Medical Administration and Duties. The subject is one which furnishes ample room for comment. The relation between arms and medicine is more intimate than may at first sight appear, the association of the civil and the military branches of the medical profession is likely to grow closer in the future, and it is certain that medicine and hygiene largely influence the successful issue of campaigns.[3]

Appointment of a Reconstituted Advisory Board for the Army Medical Services.

We publish in the Annotations of our present issue an official communication from the War Office announcing the appointment of a new Advisory Board which is to be "more distinctly advisory in its functions" than its predecessor. The details will be found on p. 1827.

Changes affecting the Medical Services Generally.

Speaking generally of the Naval, Military, and Indian Medical Services, we may say that no very important changes other than those referred to in the preceding paragraph have taken place in the regulations or conditions of service during the year 1906. Such as have arisen have been duly chronicled and commented upon at the time of their occurrence. It is doubtful whether any very marked improvement has been realised in the quality of the candidates for the services, which was hoped for as the result of the beneficial alterations which have been introduced into the conditions of service. As to the medical qualifications of the competitors, there does not appear to be any great change since the Netley days though there may be a few more men who can write M.B. Lond. or F.R.C.S. Eng. after their names. An improvement in the professional knowledge and practical work of the lieutenants-on-probation passing through the Medical Staff College in London has, we believe, not been very evident. The Indian Medical Service still maintains the best position and attracts the larger number of more highly qualified competitors.

Military Hygiene.

A beginning has been made by the establishment of a school of military hygiene at Aldershot for a more general system of instruction of regimental officers and soldiers. A great deal, especially on field service, depends upon their properly understanding and carrying out sanitary precautions in sufficient time to make them effective. In these and other respects much has been practically carried out during 1906, but something remains to be done. In matters of scientific hygiene, bacteriology, clinical medicine, and surgery it is gratifying to notice that the *Journal of the Royal Army Medical Corps* continues to maintain its excellent standard.

Indian Medical Service.

The Indian Medical Service is, we think, to be congratulated on its improved condition and on the position which it occupies at the present time in the estimation of the profession and the public. Service in India holds out many inducements, both purely professional and otherwise, to the medical officer in the way of affording a greater scope and variety of life and occupation for his selection. The reader may usefully refer to the Students' Number of THE LANCET of Sept. 1st of this year for such further information as will serve to make him *au courant* with the position of this service so far as any material changes and advantages have affected it during the present year and the serial letters from our special correspondent in India have served to keep our readers well acquainted with the current medical history of the occurrences in that country.

Progress in Scientific Research.

A great impetus has been given to medical progress by the introduction into India of scientific laboratories and of increased means and opportunities for special and scientific research. To cite a recent instance by way of illustration. At the time that KITASATO is carrying on his investigations on plague at Tokio a commission comprising officers of the Indian Medical Service has been working on the same subject in India, where they have been making a series of admirably devised experiments which have been carried out with great care and technical skill. Our knowledge of the etiology of this disease has been thereby advanced and rendered more precise. We now know far more about the relation in which the rat flea stands to the rat and the rat to man in the spread of plague infection. At the present time, however, there appear to be only two methods regarded as trustworthy in Indian experience for combating plague—namely, to run away from it or to have recourse to Haffkine's prophylactic treatment.

Enteric Fever in the Army and in India.

As usual, enteric fever bulks largely in the list of army diseases and in the space devoted to them in the columns of THE LANCET during the past year. Out of the many leading articles, reviews, and other notices which have appeared it may suffice to refer to our leading article of Oct. 6th,[4] and to our review of an exhaustive treatise on "Enteric Fever in India and in Other Tropical and Subtropical Regions," by Major ERNEST ROBERTS, I.M.S.[5] There has been during the past year, and there still is, an unusual amount of active and earnest investigation taking place into the causes of the lamentable prevalence of this scourge among our troops in India. A special committee of experts has been appointed by Lord KITCHENER, the Commander-in-Chief, to consider the best measures for stamping it out; and in other directions also increased efforts are being made to mitigate its ravages through the instrumentality of mixed committees composed of medical and engineer officers. No very special addition of fundamental importance has been made to the literature of the subject of enteric fever since the publication of the report of the commission on the Spanish-American war of 1898, and since the efforts of KOCH and his followers to suppress the disease in a number of places in Germany have been made known. Similar measures have been applied in India and its cantonments during 1906, in addition, of course, to those which had been long previously adopted. It has only of late perhaps been sufficiently recognised that the liability to relapses and often the long-continued appearance of the bacillus typhosus in the urine of patients may form serious and insidious sources for the maintenance and spread of infection in camps. Still, practically speaking, and especially in time of war, what has to be safeguarded is the water-supply if we would prevent the occurrence of those epidemics of an explosive nature with which the past history of war has unhappily familiarised us.

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[3] THE LANCET, Feb. 17th, 1906, p. 460.

[4] THE LANCET, Oct. 6th, 1906, p. 942.

[5] THE LANCET, Nov. 17th, 1906, p. 1356.

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The important conference which took place upon this subject in the month of June under the presidency of Mr. JOHN BURNS should have the effect of stimulating local authorities throughout the country to further and more comprehensive action. Mr. BURNS told his audience that, roughly speaking, 100,000 infant lives were being sacrificed every year through neglect, carelessness, and ignorance, and that in the first year of child life there are as many deaths as in all the other years taken together up to the age of 18. If, he added, men and women were able to extend the working period of their lives it devolved upon them to help those whom they brought into the world. While wealth increased and prosperity extended, the weakest, the smallest, and the most dear bear the burden of death. Whatever might be the chief cause of infantile mortality, not the infant but society was to blame. Fortunately, from the point of view of etiology, there is administratively almost unanimity of opinion that improper feeding and maternal neglect are at least two of the most important factors in the problem. The introduction of the milk depôt has been a force which is gradually in some places bringing about a better state of affairs, not so much by the supply of sterilised milk, concerning the merits of which there is a difference of opinion, but, as Dr. G. F. MCCLEARY pointed out at the June conference, by directing public attention to the necessity for a proper milk-supply for infants. Such a supply in its natural state is alone to be derived from the source where nature has placed it—from the human mother's breast—and the more that the milk depôt can succeed in bringing this elementary truth home to the mother the greater will prove its power for good. If, as Dr. MCCLEARY observed, milk depôts dispense sterilised and artificial milk to all comers such depôts will lay themselves open to a charge of *lèse maternité.* There are, of course, numerous factors contributing to this deplorable infantile mortality, and one which is undoubtedly bound up with the problem in some districts is that of female labour, more especially shortly after confinement, when it is of special importance that the mother should suckle her young and when, in point of fact, the highest incidence of infantile mortality occurs. It is to be hoped, therefore, that any subsequent legislation directed towards the reduction of infantile mortality will materially extend the period during which the recently delivered female is prohibited from undertaking work away from home. In framing such a provision regard must, however, be had to the fact that prolonged absence from work of the female may impair the food-purchasing power of the family. But closely bound up with this question of infantile mortality and affecting also the interests and health of every member of the community is the elementary but apparently difficult problem of

A Pure Milk supply,

i.e., of a milk drawn from the cow's udder and supplied directly to the consumer without the addition of dirt, preservatives, water, or colouring matter. In this direction the year 1906 has held out some prospect of improvement, inasmuch as certain committees have had the matter under their consideration with the view doubtless of bringing suggestions before the President of the Local Government Board. No doubt enormous improvement might be effected by a strict enforcement throughout the country of revised regulations under the Dairies, Cowsheds, and Milkshops Order. We are, however, afraid that most of the rural district councils and, doubtless too, many of the smaller urban councils, are hopeless in this matter as they are at present constituted, notwithstanding the statement contained in many annual reports that the dairies and cowsheds are often "satisfactory." For ourselves we are convinced that very little progress will be made until the public as a whole insist upon their representatives on district councils adopting a higher standard, or until the duty of acting in default of such district councils is imposed upon county councils.

Tuberculosis.

The Royal Commission on Tuberculosis has not yet told us by the issue of its final or second interim report what degree of danger is to be anticipated from the consumption of the milk and meat of tuberculous cattle. We, however, know enough from the work already carried out in this and other countries to satisfy us that the position taken up by Professor KOCH in 1901 can no longer be maintained. Much recent research has gone to show that possibly the greater portion of human pulmonary tuberculosis arises *viâ* the intestine and not *viâ* the air passages. There are indeed indications that not a little of the former work in connexion with inhalation experiments may have to be revised, or, perhaps even rewritten from another standpoint, and that not improbably greater prominence will have ere long to be given administratively to the control of milk and meat.

As regards sanatoriums the past year has seen the opening of the somewhat palatial institution erected at the initiation by HIS MAJESTY the KING, and there have also been in course of erection other institutions on a less magnificent scale in West Wales, Northumberland, and Kent. The last institution, now being constructed near Benenden, is of exceptional interest from the point of view of the working classes, in that it is promoted by the National Association for the Erection of Sanatoria, and is being built on economical lines. The cost of the site and of construction is being defrayed largely by public munificence, but it is hoped that, when erected, no further appeals for assistance or endowment will be necessary. The movement is being supported in an encouraging fashion by friendly societies and trade unions in London and its environment, and some 25 of the beds have, we believe, already been taken up by the Post Office employees, other societies having together undertaken to subscribe for the support of an equal number. Although the pristine enthusiasm and over-statement which heralded in this country the sanatorium movement have doubtless abated, good work is being steadily carried on. It is now becoming recognised that not all the patients entering these institutions are likely to emerge "cured" after three months' treatment, and fortunately for the cause of truth the word "cured" is being expunged from the statistics relative to sanatoriums and is being replaced by the more sober but still sometimes misleading terms of "arrested," "practically arrested," and "greatly improved." Optimism in the compilation of these statistics is perhaps a natural failing on the part of their promoters, but the greater the divergence from accuracy of statement the larger will be the flock of chickens which will eventually come home to roost. We have already seen something of this in the isolation hospital controversy and it is clear that nothing is worse for the ultimate survival of useful institutions, such as sanatoriums undoubtedly are, than over-statement. Statistics may mislead but the churchyards record their dead. Let us recognise the fallacies of some sanatorium statistics and set to work to remedy them. One of the most hopeful signs in connexion with these institutions is the growing importance which is being attached to encouraging the patient to undergo while at the sanatorium some systematic form of work, so that when he is discharged as "fit for work" the statement may have some solid foundation and the patient may be in a better position to undertake a form of work more fitted to the prolongation of his existence than may have been his former occupation. The voluntary notification of pulmonary tuberculosis is being extended and the work done at Manchester and Brighton is showing that, in so far as the record of cases is concerned, encouraging results are being obtained without recourse to compulsion. It is, indeed, becoming apparent that "compulsory notification" in connexion with consumption can be compulsory only in a very partial and nominal fashion, and that cases of this disease cannot be sought out as can be those of small-pox, diphtheria, or typhus fever. Clearly, if the workman with tuberculosis and a family to support is prevented by the disease from supporting either himself or his family, he will be in no hurry to have a suspected condition confirmed. It is, of course, possible to enact by statute that "compulsory" notification shall obtain but the application of such a measure needs the coöperation both of the public and of the profession, and a wise administration will hesitate before it enacts a measure which may in a sense promote the prevalence of *suppressio veri.* The Local Government Board of Scotland has, it appears, in the meantime elected to regard the disease somewhat on the same lines as it regards small-pox and has, it seems, announced that in its view a person subject to tuberculosis may be considered as coming beneath all the penal clauses of the Scottish Public Health Act. The rigid application of such a view is obviously impracticable and we shall watch with interest how far the analogy will be pressed administratively. Apparently the medical profession in Scotland is not quite clear as to the precise meaning of the circular of March 10th, and Dr. BYROM BRAMWELL at a recent meeting of the Edinburgh Medico-Chirurgical Society, while commending the circular, thought that without some qualification and explanation it might give rise to grave misunderstandings on the part of the profession and the public. As he pointed out, "many of the measures, such as rigid isolation, removal to hospital, and so on, which were necessary in the case of most of the other infectious diseases, such as small-pox, scarlet fever, and typhus fever, were not necessary for the great majority of cases of pulmonary tuberculosis."

The Better Control of Meat and Other Foods.

The excitement caused by the allegations as to the conditions under which meat was prepared for exportation in Chicago has had some effect in awakening public interest in the subject of our food supplies generally, and as Parliament may now be able to divert its attention from sectarian matters for a short space of time we may hope to see a very material improvement in our machinery for the better control of imported and also exported food-stuffs. Situated as we are on an island, unable from its own natural resources to supply the whole of its population with vegetable and animal produce derived directly from its own soil, we are dependent in an altogether exceptional degree upon the supplies which we are able to purchase from other nations. But over the preparation of much of the food which reaches us we have but very little control, and while the flood-gates of foreign importation are left wide open we may be daily receiving foods of one or another description prepared under undesirable conditions and composed of materials which, were we to view them in their natural state, we should unhesitatingly condemn. Thus we should be committing an administrative blunder were we to impose upon our home-grown and home-manufactured material restrictions which would place it at a serious disadvantage as compared with foreign produce and at the same time afford us no adequate protection against the consumption of tainted foreign produce. In connexion with this question a very important beginning has been made during 1906 by the Local Government Board in the creation of a Foods Department which has already, as illustrated by an interesting report by Dr. G. S. BUCHANAN and Dr. S. B. SCHRYVER on dangerous changes in meat essences, done admirable work within the very small limits possible with its present staff and powers. But here is a nucleus which if encouraged or even allowed to grow by its own inherent elasticity should improve the character of food inspection throughout the country. It has obviously the support of Mr. BURNS who, together with his colleague Mr. RUNCIMAN, the Parliamentary secretary of the Local Government Board, has introduced a Bill which possesses abundant potentialities, its scope being to enable regulations to be made for the prevention of danger arising to public health from the importation, preparation, storage, or distribution of articles of food; and it also proposes to enact that "any article commonly used for the food or drink of man shall be deemed to be intended for human consumption unless the contrary is proved." This Bill, if passed, should prove an extremely useful instrument and Mr. BURNS has our best wishes for what we trust will prove a peaceful passage for it through both Houses. Some better system of the labelling of imported produce arriving in this country and for exported produce sent out from it, as well, presumably, for foods which have been sent out and returned after many years, is urgently needed. As regards our home meat supply a useful measure has been introduced into the House of Lords by Viscount HUTCHINSON, its chief aim being to enable local authorities which have provided public slaughter-houses to prohibit, with every safeguard for proper compensation, the use of private slaughter-houses. It is well known that in the absence of the power sought public slaughter-houses have in many instances been deprived of the greater part of their utility, and in the interest both of public health and the prevention of cruelty this Bill has our support.

We are still purchasing in unknown quantities boric acid, formalin, and other drugs with the milk which we give to infants and invalids and with the foods which we ourselves consume when, from a therapeutical standpoint, it would be preferable that those of us who wish to take these drugs should procure them from druggists and consume them with some respect for the British Pharmacopœia. With regard to all the subjects referred to in this section legislation could prove a relatively easy matter, and in the absence of some new statutes there would appear to be danger that by means of organisations encouraged by the traders themselves an attempt may be made to procure standards of a low and unsatisfactory nature.

Vaccination.

As to administration relative to preventive inoculation there is little to record, although we understand from answers given in Parliament that Mr. BURNS has the subject under consideration. Whether this means the whole question connected with the administration of vaccination or whether the subject of the remuneration of public vaccinators is alone to be dealt with we are unaware. As regards this latter point, we rely upon Mr. BURNS's sense of equity. He is, we believe, accustomed to ascertain facts for himself and we therefore venture to hope that before he sanctions any fundamental alteration in the fees of public vaccinators he may find time to pay a surprise visit to some country public vaccinator and proceed with him to the home of some unvaccinated child at a distance concerning whom the public vaccinator has sent out the usual notice. This alone will bring home to the President of the Local Government Board the real merits of the case as regards fees in rural districts. Concerning the general question of vaccination, we hope that Mr. BURNS may be considering the desirability of placing revaccination on the same basis as primary vaccination and of transferring its administration to the county councils.

Utility of Isolation Hospitals.

Discussion continues upon this interesting topic and statisticians appear unable, at least by the methods so far adopted, to arrive at very convincing results. It is obvious, as we have often pointed out in our pages, that as bacteriology advances and the importance of unrecognised and carrier cases becomes appreciated a broader view must be taken of the position of the isolation hospitals than was the case 25 years ago. Many of the criticisms which have been directed against isolation hospitals are based upon somewhat old-world notions of epidemiology and they have undoubtedly unsettled the minds of local authorities anxious to avoid the expense of erecting such institutions, or perhaps it would be more correct to say that these criticisms have helped such authorities to make up their minds to do nothing. It would be difficult, apart perhaps from a Royal Commission or a Departmental Committee, to satisfy the sceptically minded as to the value of isolation hospitals, and, curiously enough, we seem to be passing, although at a much greater rate, through somewhat the same phase of thought with regard to sanatoriums for consumption. They were, according to some of their promoters, to sweep tuberculosis from the land and now we have a correspondence the burden of which is to determine whether such institutions are "worth while." It is regrettable that wild statements should on the rebound take the shape of unconditional condemnation and that an impartial investigation into both problems is not undertaken.

Rivers Pollution and Sewage Purification.

At the end of 1906 matters as regards the purity of our streams and with reference to our knowledge as to the relative values of different methods of sewage purification would appear to be much the same as they were when we wrote our notice of 1905. The numerous reports of the Royal Commission on Sewage Disposal and the voluminous appendices which accompanied them have not excited the interest of the new Parliament, and it must be said that the public appears to be somewhat apathetic on the subject. Possibly we are all awaiting the issue of that *final* report which is to tell us how a sterile effluent is to be procured at a reasonable cost, in which we may not only bathe ourselves but which may with impunity be turned into estuaries devoted to shell-fish culture and into streams from which our drinking water is procured. In the meantime the destruction of pathogenic organisms by means of processes of sewage purification remains for all practical purposes an unsolved problem. Fortunately some of our joint rivers boards are doing good work and it is regrettable that in accordance with the recommendations of the Royal Commission Parliament has not divided the whole country into districts or areas over which large boards focussing their work in a central office might preside.

The Medical Inspection of School Children.

The annual reports of several medical officers of health have borne testimony to the admirable work which is being done under the existing Education Act, and although we have no wish to involve ourselves in any considerations partaking in the least of a party character, we may say that we heartily approve of the provisions in Section 24 of the late Education Bill, which proposed to enact that the powers and duties of a local education authority under Part III. of the Education Act, 1902, should include the duty of providing for the medical inspection of children before or at the time of their admission to a public elementary school, and on such other occasions as the Board of Education might direct. The Bill also proposed to bestow upon the local authorities power to provide play centres or means of recreation during the holidays, either in the schoolhouse or in some other suitable place in the vicinity, and both these proposals met with the approval of the House of Lords. By the medical inspection of school children and by the education of the older of the children in the elements of heathful living there is held out, in our view, the best prospect of a general amelioration of the public health. If the children can be encouraged to appreciate fresh air, light, and cleanliness, and if the older girls by means of some simple object lessons can be made to understand the values as regards nutriment of the commoner articles of food, there will be laid the foundation upon which a great superstructure of public health will commence to rear itself when the older girls become wives and mothers and the boys fathers and electors.

The Cabinet and Public Health.

At the moment of writing there are rumours afloat of changes in the Cabinet which, if carried into effect, would result in the translation of Mr. JOHN BURNS to some more lucrative and more highly prized position. The possibility of a change such as this is the result of the low estimate in which local government is held throughout the country generally, and the best remedy for this deplorable state of affairs is not to transfer Mr. BURNS from a post in which he has opportunities of carrying into effect the doctrines which he has preached throughout his life but to make him in accordance with a proper estimate of the health of the people Secretary of State for Public Health. Mr. BURNS could bring this change about by the force of his strong personality, as the way has already been paved for it by the report of committee issued under the late Government. We can only add that if Mr. BURNS leaves the Local Government Board after so short a tenure of office with all the possibilities which that post affords for the amelioration of the lot of the poor he will be taking a step which will be universally regretted.

EXOTIC AND TROPICAL DISEASES.

Plague in India and the Far East.

Though plague continued its ravages throughout almost the whole world during 1906, yet there are gratifying indications that the height of the present pandemic has been reached, and that in India the disease is diminishing in its virulence. It may be remembered that in 1905 there were notified in the Indian Empire about 1,000,000 cases of plague, but during the ten and a half months ended Nov. 17th, 1906 (the latest period for which trustworthy reports are available), there have been recorded about 355,000 attacks and it is unlikely that during the remaining six weeks of 1906 the total amount will be increased even to anything like one-half of what was reported for 1905. The province which during the present year has yielded the largest number of cases and deaths is the Punjab which has a population of rather more than 24,000,000; upwards of 102,000 cases and 88,000 deaths were referred to this province. The Presidency of Bombay was not far behind with nearly 83,000 attacks and 61,000 deaths in its population of over 25,000,000. The city of Bombay, so long notorious for its high mortality from the disease, did not appear to suffer quite so severely during the current year, for only about 12,300 cases and 10,800 deaths were certified up to mid-November. A very virulent outbreak of plague devastated the city of Poona, the population of which with the cantonments does not quite reach 150,000; no fewer than 9000 persons were attacked and 8000 of them perished from the scourge in a period of four months. The height of the epidemic was reached in the last fortnight of September, when more than 2000 persons died from plague in Poona during that short period. For some reason not yet apparent the Presidency of Bengal has not suffered in past years to anything like the same extent from plague as has the sister Presidency of Bombay, for in Bengal, with its population now reduced to nearly 50,000,000 (since the taking away of Eastern Bengal lately amalgamated with Assam), only about 55,000 cases of plague and 52,000 deaths were certified in 1906. Calcutta, too, unlike its rival city Bombay, has not yet suffered severely from the ravages of plague, and though the populations of these two cities are now regarded as not very greatly different, yet Calcutta had in 1906 (to mid-November) only 2500 deaths from plague as against Bombay's 10,800. The Madras Presidency suffered still less, for though its population exceeds 40,000,000 there were reported up to mid-November only the comparatively trifling number of 1200 cases and 850 deaths. In the United Provinces of Agra and Oudh, with a population of over 47,000,000, some 54,000 cases and 48,000 deaths from plague were certified. The native states of Mysore and Hyderabad yielded respectively 3400 and 1190 deaths from the disease. The other provinces and native states call for no special mention.

The information from China is scanty and except as regards Hong-Kong we have very few details. At Hong-Kong some 900 attacks and 834 deaths were recorded up to the end of September, when the disease appears to have subsided, at least for the time being. Plague was reported, too, at Canton, Swatow, Foochow, and Amoy, but to what extent it prevailed cannot be stated. In the Kwang Tcheou territory leased by China to France plague was epidemic in the early part of 1906.

In Japan a number of ports and towns were invaded by the disease; among these were Tokio, Schimonoseki, Kobe, Osaka, Otake, Chiba, Kagawa, and Moji, but there was at none of these places any extensive outbreak. In Formosa, on the other hand, there was a considerable amount of plague, close upon 3000 attacks and 2300 deaths being certified up to the end of August, after which date the disease seems to have disappeared from the island. In the Philippines some scattered cases were notified in the first three months of the year, but in March, for the first time for more than a year, plague-infected rats were discovered in a certain quarter of Manila All traces of plague in the rodents had, however, disappeared by the end of June. With the exception of two isolated cases reported in April no more human plague was observed, notwithstanding the presence of plague-infected rodents in the city for two months longer. In the Straits Settlements a few cases were reported from Singapore, and reports in April stated that plague was epidemic in the Wellesley Province and that Penang had been on that account declared infected. At Saigon in Cochin China a few cases occurred in January and at Bangkok in Siam the disease broke out early in the year and continued to show itself till June. The Siamese port of Tongkah (or Puket) was also invaded in August. There was no epidemic in any of the Australian states but about 20 cases were referred to Sydney, the capital of New South Wales; and these cases, it is said, were associated with a concurrent epizootic among rodents in that town. In Queensland some ten cases were reported at Brisbane, 11 at Rockhampton, and 7 at Cairns. In South Australia only a single imported case occurred at the port of Adelaide. In Western Australia about 12 cases were notified at Fremantle, 10 at Geraldton, and 6 at Perth. Plague broke out in New Caledonia, at Noumea, in November, 1905, and persisted till February, 1906, 47 persons being attacked, of whom 19 died. In September two convicts died from plague at the village of La Coulée, about 12 miles from Noumea. Only 17 scattered cases, all fatal, were heard of at Honolulu in the Hawaiian Islands. Two other cases were reported at Kauai, one of the other islands of this group.

Plague in America.

In South America plague appears to have become endemic. In Brazil a number of localities suffered, including the capital, Rio de Janeiro, where, however, rather less than 200 cases were reported. Bahia, Campos, Sao Paulo, Pernambuco, and the island of Itaparica all yielded cases of plague during the year. In the Argentine Republic a few cases (not officially admitted by the local authorities) were reported at Buenos Ayres early in the year, and several other cases in December; an outbreak occurred also at San Nicolas, situated on the River Parana. There were quite a number of localities invaded by plague in Peru during 1906, Lima, Mollendo, Payta, Trujillo, and Salaverry being among the number. In Chile plague was reported at Valparaiso and Antofagasta. Early in January plague appeared in Paraguay, at Asuncion, but the local authorities took little notice of the outbreak, which, however, seems soon to have subsided.

In the United States plague was imported on the steamship *Burrsfield*, which arrived at the quarantine station at Reedy Island, Delaware, from Bombay in April. The master reported that two persons had died during the voyage from suspicious illness and that four lascars were sick of the same complaint. The sick men were landed at the lazaret, where one of them subsequently died. It was definitely proved by laboratory investigations that the disease from which the lascars suffered was plague. The usual precautions were taken and no further cases supervened on the ship or on shore.

Plague and Suspected Plague in Europe and Western Asia.

There were no definite outbreaks of plague in Western Europe, though several suspicious ship-borne and other cases came under observation. One such instance occurred on our own shores, the man subsequently attacked having landed at Southampton from a military transport arriving from Bombay in April. A fortnight later, while visiting his friends in the North of England, he was attacked by very suspicious symptoms. The case, however, was pronounced by a bacteriological expert not to be plague. In France, at Havre, in July a sailor employed in unloading goods from Rio de Janeiro, from a steamship into a lighter, fell ill and died in the hospital to which he had been removed. Conflicting reports were published, one stating that the diagnosis had been confirmed by expert investigation with material taken from the dead body, while another report denied that the case had been proved to be plague at all. At Trieste in November an Austrian quartermaster on board a steamer trading between Venice and Trieste was attacked by illness and died at the hospital whither he had been taken. Post-mortem examination and laboratory investigations proved conclusively that the man had died from plague. The source of the infection was not traced, but it was alleged that his ship had carried goods transhipped from steamers which had come from Indian and Japanese ports. Early in December four sailors on board a ship recently arrived at Hamburg from the River Plate were removed to the port hospital suffering from suspected plague. It was stated that another member of the crew had died during the voyage, presumably from similar illness.

In the early months of 1906 some cases of plague occurred in the government of Astrakhan, at Krasny-Jar, Bodan, and Obschorowo in the district of Krasnojarsk, but the disease soon disappeared. In March it was reported from Kharbin that plague had appeared in Mongolia south of Djalnaïor. No further outbreak was heard of in Russian territory till September when a number of cases were observed in the Cossack village of Abagaitouï in the district of Akschine in the Transbaïkal government, and also cases in the village of Mandjouria. It was alleged that the first persons attacked at Abagaitouï had eaten the flesh of the Steppe marmot, an animal known to be extremely susceptible to the ravages of a disease regarded as identical with true plague.

In the Persian province of Seistan plague of a virulent kind broke out early in 1906 and continued to ravage certain towns and villages up to August. One of the places which suffered most was Nasrabad, where it is alleged that the population had in a short time been reduced from 2500 to 300, partly by the ravages of plague and partly by the flight of the alarmed inhabitants. The height of this outbreak appears to have been reached about the end of March. It is reported that between March 12th and April 19th no fewer than 920 cases were notified, and of these 794 proved fatal. In Turkish territory outbreaks of plague, none of them, however, on any large scale, were observed at Adalia, Trebizond, Beirut, and Jeddah. Two cases were imported in June from the last town to Mecca, where, however, the disease did not spread. A single ship-borne case was reported at Rhodes in October.

Plague in Africa.

Egypt suffered more from plague in 1906 than in 1905, for there were reported during the first 11 months of the current year 560 cases and 410 deaths, as compared with 256 attacks and 181 fatal cases in 1905. Alexandria, Port Said, and Suez were among the towns invaded in 1906 and the chief provinces to suffer were Keneh and Minieh.

At the end of 1905 the island of Madeira was reported to be infected by plague and early in 1906 a number of persons were removed to the local lazaret. A panic ensued and anyone showing feverish symptoms was liable to be forcibly removed to the hospital and kept fast there as a prisoner. A few patients who had recovered and been discharged brought back such alarming accounts of their treatment in the lazaret that an enraged crowd, forgetting their fear of plague, forced the gates, stormed the hospital, wrecked the building, and rescued the remaining inmates, carrying them in triumph to their homes. The medical officer of the lazaret escaped with difficulty and sought refuge from the infuriated mob on board a Portuguese warship in the harbour. It was afterwards officially certified that none of the cases isolated in the hospital had been plague. There had been, it appeared, merely an error in diagnosis!

In South Africa, though no human plague was reported, the disease was discovered among rats and mice in certain localities. The last human case reported in South Africa left Port Elizabeth hospital on Dec. 29th, 1905. Infected rats were found at Port Elizabeth in January, 1906, and infected mice in July. Infected rats and mice were found at East London in May, June, and July, and a single infected rat on August 29th. At King William's Town in July rats were found infected but the disease seems to have disappeared quickly. It is worthy of note that although rodents were infected by plague in the above localities not a single human case came under observation during the year. At Nairobi in British East Africa in the early months of 1906 a few cases were notified. In Mauritius, where plague has persisted for the last eight years, there was a slight increase during the present year in the amount of the disease as compared with 1905; up to the beginning of December, 1906, some 476 cases had been notified, of which 254 were fatal, against 308 attacks and 212 deaths in the whole of 1905. The main incidence of the disease was upon the Indian population, and Port Louis yielded the bulk of the notified cases.

Recent Investigations into Plague

During the current year a valuable report on investigations into plague in India was issued by the Advisory Committee appointed jointly by the Secretary of State for India, the Royal Society, and the Lister Institute. This committee appointed a working commission, of which Dr. CHARLES J. MARTIN, F.R.S., of the Lister Institute, was chairman. The head-quarters of this commission were at the Plague Research Laboratory, Parel, Bombay, and the work included epidemiological observations as well as laboratory experiments. Much attention was devoted to the study of the epizootic spread of plague amongst rats and the modes by which the malady may be spread from rat to man. In this connexion elaborate experiments were carried out on a comprehensive scale, proving the transfer of infection by means of the flea. The preliminary report of this commission was published in September as an extra number of the *Journal of Hygiene*. It is expected that its investigations will ultimately throw considerable light upon the problems connected with plague which have puzzled epidemiologists in the past. During the year there has also been published a work on the Bacteriology and Etiology of Oriental Plague by Dr. E. KLEIN, F.R.S., the well-known expert. Among other subjects he discusses in this book the modes of infection of animals with plague and gives an account of some very interesting feeding experiments with plague-infected food. These observations may be found to have an important bearing on the question of transmission of plague by rodents. Another important subject discussed by Dr. KLEIN is protective inoculation against the disease and he describes a new prophylactic prepared by himself as to which encouraging results have been obtained by him. Further information, we understand, is promised in a forthcoming report on this interesting subject by Dr. KLEIN.

Cholera.

There was no epidemic cholera in Europe during 1906, though a few cases were reported in the early days of January in the Russian governments of Warsaw, Lomza, and Plock, the expiring manifestations of the sharp outbreak which had been experienced in 1905 in the valley of the Vistula. In October a notice appeared in the public press that two cases of cholera had occurred in Rotterdam; no official confirmation, however, of the diagnosis was issued. But a few days after this considerable alarm was caused by a report that a vessel from Rotterdam had put in at Queenstown with two of her crew dead and four others seriously ill with choleraic symptoms. Post-mortem examination of the two dead bodies followed by laboratory investigations by the experts of the Irish Local Government Board failed, it is said, to find evidence that the men had died from Asiatic cholera. It became known afterwards that the men had eaten freely of mussels at Penarth, where the ship had called, and it was surmised that these shell-fish, obtained presumably from a contaminated source, had given rise to the choleraic illness. As in former years, India, the so-called home of cholera, yielded the great bulk of the cases heard of in 1906. The disease was epidemic in various districts in the Bengal Presidency and up to August more than 130,000 persons had perished from the scourge. In Eastern Bengal and Assam (now one province) about 73,000 victims were reported in the first half of the year. In the United Provinces of Agra and Oudh close on 97,000 fatal cases were certified up to the month of August, while in the Punjab some 75,000 others died from the disease in the first nine months of the year. In the Presidency of Madras about 70,000 fatal cases of cholera were reported up to the month of October. Precise information is not available at the time of writing respecting the Bombay Presidency, but in Bombay city only 1132 cholera deaths were recorded up to the middle of November and in Calcutta 1726 during the same period. Outbreaks occurred, too, in the Central Provinces and in Burma but respecting these definite figures have not been available.

In Siam, at Bangkok during the ten weeks ended April 14th 242 cases and 198 deaths from cholera were notified. In Ceylon during October there were reports circulating that several districts had been invaded by cholera, but no details were published. Cholera was said to be epidemic from January to June at Singapore in the Straits Settlements. The disease also broke out at Kuran, Perak, Penang, and in the Wellesley Province. During the last few years the Philippine Islands have suffered severely from epidemic cholera and 1906 furnished no exception, for during the first ten months of the year 9570 attacks and 7282 deaths were certified from this cause, 860 cases and 752 deaths being referred to the city of Manila. The epidemic is alleged to have been due to specific contamination of drinking water. Some use was made of protective inoculation. But an unfortunate occurrence took place at one of the Manila prisons where 24 prisoners received injections of the prophylactic, with the result that all of them died from plague. The disaster is said to have been due to the accidental misplacement of plague cultures among the tubes containing the prepared cholera prophylactic. A few cases of the disease occurred at Kobe and Tokio in Japan, and two imported instances at the port of Moji were reported on a steamer. In China cholera invaded Shanghai, causing, it is said, 600 deaths during the summer months. A few cases were also reported from Foochow and Hong-Kong. In the public press there was published the account of an outbreak of cholera on board a steamer conveying coolies from an Indian port to the Fiji Islands. No fewer than 124 coolies, it is stated, contracted the disease, and 61 of them died.

Yellow Fever.

There were no extensive outbreaks of yellow fever in 1906 such as occurred, for example, in New Orleans in 1905, when over 3000 cases were notified. But, nevertheless, yellow fever appeared in a considerable number of localities in the area in which the disease is regarded as endemic. In Brazil certain places were reported as infected, including Rio de Janeiro and Para. Cuba, which had remained almost free from the disease for several years, was again invaded in October, 1905. Although the Cuban Government announced that the outbreak which began then had completely subsided by February, 1906, there is reason to believe that this statement was not justified by the facts. At least three provinces in the island suffered during 1906—viz., Havana, Matanzas, and Santa Clara—and even in November cases continued to come under observation not in large numbers but sufficient to cause uneasiness to the adjacent Governments. Yellow fever was also present in Mexico from January to the middle of October, the provinces of Vera Cruz, Yucatan, and Oaxaca being infected. A large proportion of the reported cases and deaths were referred to localities in the province of Yucatan. The States of Guatemala, Nicaragua, and Costa Rica also yielded cases of yellow fever. In Honduras a number of localities were invaded and among them El Paraiso, Pimienta, Puerto Cortes, San Pedro, and Ceiba. In Panama cases were reported at Bocas del Toro and Colon; and in the Republic of Ecuador there was a sharp epidemic at Guayaquil, where about 250 deaths were referred to this cause. Some cases occurred at Callao in Peru. In June yellow fever was reported to be present at La Vega in the island of San Domingo. In French West Africa yellow fever has frequently been reported from Dakar in Senegal and it has often been said that the white population of that town was "periodically decimated" by the disease. Large sums of money have been spent by the French Government in filling up marshy ground and in other ways in making the town healthy, with the result, it is said, that in 1906 only one fatal case of yellow fever was reported.

An expedition from the Liverpool School of Tropical Medicine was at work during 1906 in Brazil studying yellow fever and both members of the expedition are said to have contracted the disease. It is understood that they have succeeded in proving that chimpanzees can be infected with yellow fever by means of the bites of the stegomyia fasciata as in man, and that it is possible for the female stegomyia to infect its offspring.

Cerebro-spinal Fever.

Though scattered cases have been reported from time to time during 1906 in various parts of England there has been, so far at least as we are aware, no recognised epidemic; though as we write we hear that five cases are at present under treatment in a hospital in London. In Scotland, however, some alarm has been experienced in Glasgow and in certain localities in Lanarkshire at the appearance of the disease in somewhat numerous instances. At Glasgow, between March and July, some 81 cases were reported, 60 of them being fatal; in the adjoining urban district of Partick four other cases came under notice; and in parts of the county of Lanark about 25 cases regarded as true cerebro-spinal fever, 16 of them with fatal results, were certified. In France an outbreak among the military at Toulon in August prevented the calling out of the reserves for their annual training. In Austria the disease also interfered with the military manœuvres in June owing to an outburst among the troops assembled at Bruck. Smaller occurrences were also noted at Pola and at Trieste. In Germany cerebro-spinal fever was prevalent chiefly in Silesia and in Westphalia. In Silesia, it may be remembered that in 1905 a considerable epidemic occurred, comprising over 3600 cases and 1800 deaths, about 3000 of the cases being notified in the district of Oppeln. The prevalence continued in 1906 but in diminished amount up to the end of November. To Westphalia the infection was taken from Silesia early in 1906 and spread with some rapidity among the mining population. Up to the middle of November there had been notified in the whole of Prussia nearly 2000 cases and about 900 deaths, the epidemic reaching its height in the month of April. In Morocco there was an outbreak at Tangiers, where about 80 cases were reported up to April, most of them being children under 15 years of age. In Egypt, too, the disease was prevalent during the year and in India outbreaks have been observed. In the United States of America cerebro-spinal fever was rife in 1906, especially in the State of New York, where it may be remembered that in 1905 no fewer than 2566 deaths were certified from this cause. The prevalence showed lessened activity during the second half of 1906. Altogether, during the current year up to the beginning of December more than 1000 cases and 630 deaths had been recorded in the State of New York. Continued study of the disease has been carried on by experts at home and abroad during 1906, and a voluminous report by various experts on the Prussian outbreak of 1905 has been published recently, entitled "Arbeiten über die übertragbare Genickstarre in Preussen" ("Observations on Epidemic Cerebro-spinal Meningitis in Prussia") and contains a vast amount of clinical and bacteriological information relating to the disease. Similarly Dr. DROBA and Dr. KUCERA have just issued an elaborate report on the epidemic in Austrian Galicia in 1905 as a special number of the *Oesterreichisches Sanitatswesen*, "Bericht über die Meningitis-Epidemie in Galizien im Jahre 1905."

Malta Fever.

It is now admitted that Malta fever is not confined to the Mediterranean stations, but that it is met with in Egypt, India, South Africa, and elsewhere. During the current year considerable progress has been made in our knowledge of the causation of the disease. The joint commission appointed by the Royal Society, the War Office, the Admiralty, and the Civil Government of Malta issued a further report in February, 1906, and in it produced evidence that many goats supplying milk to the public in Malta have suffered from the disease, the micrococcus Melitensis having been found in the goat's milk. The suggestion is that the goats of the island are responsible for at least a part of the prevalence of Malta fever. Other animals, too, including cows, mules, and dogs, suffer naturally from the disease. Feeding experiments with infected milk have conveyed the disease to monkeys and goats. The naval and military authorities in Malta have acted upon this report and have, we understand, in consequence discontinued the use of goat's milk in most of the hospitals and barracks, with the result, it is stated, that there has been a diminution in the amount of the disease observed in the garrison. In civil hospitals, we are informed, goats' milk is now boiled before use. From July 1st, 1905, to June 30th, 1906, the cases notified in Malta amounted to 1606 with 138 deaths; 822 of the cases occurred among the civil population. As in enteric fever, so in Malta fever there are, it is probable, other vehicles as well as milk by which the germs of Malta fever can find an entrance into the human system. We understand that further researches in this direction are being carried out. The question of the alleged transmission of the disease by means of mosquitoes, too, is being further investigated.

Sleeping Sickness.

During 1906 the ravages of this disease have been much discussed in and out of Parliament. The area infected by it is said to be extending as new trade routes are opened out in the heart of Africa. So far no remedy has been found to cure it, though some persons speak hopefully of the use of atoxyl injections in the later stages of the disease and of strychnine in the earlier period of the illness. The measure at present proposed to check its spread are likely to prove not only costly but difficult to carry out in practice. Altogether, at the end of 1906 the prospect is not a cheerful one in respect of this disease. But, on the other hand, many scientific workers are in the field. During the year the investigations of the commission subsidised by the British Government and supervised by the Royal Society have been continued in Uganda. In the region of the Lake Victoria Nyanza a German expedition, headed by Professor R. KOCH, is collecting scientific material with a view to solve some of the problems connected with this mysterious malady. Shortly another expedition with the same object will be despatched to the British Central Africa Protectorate at the expense of the Liverpool School of Tropical Medicine, which on a former occasion sent a similar expedition to the Congo Free State to study sleeping sickness. The KING of the BELGIANS, we hear, has offered a prize of 200,000 francs to anyone, no matter what his nationality, may be, who discovers a cure for Sleeping Sickness, and he offers a further amount, estimated at about 300,000 francs, to be expended in experimental research, the object of which is the extermination of this fatal disease. Beyond the destruction of the glossina palpalis and the removal of its opportunities for finding a breeding-ground, the measures proposed for checking the spread of sleeping sickness from infected to non-infected districts comprise (1) the establishment of medical inspection stations on the trading routes between adjacent States; (2) the palpation, by the inspectors, of the necks of all persons, Europeans as well as natives, passing along these routes, with a view of discovering enlarged glands; (3) when found the puncturing of these glands to discover if the juice from them contains trypanosomes; and (4) if these be found in the gland juice the patient is to be conducted to a sanatorium established within the already infected zone, there to submit to treatment till he be cured or die. Grave fears are entertained by some persons that the disease may find its way from Uganda and the Congo State along the valley of the Upper Nile into Egypt and the Soudan, and eastwards into British East Africa and elsewhere.

CHEMISTRY.

Chemical research during the past year has been without any particularly brilliant announcement such as characterised the years when radium was discovered or when the formation of helion from this element as a product of its degradation was observed by RAMSAY. Such a fact, however, is no proof that steady patient work has not been pursued the outcome of which is likely to contribute further to our knowledge of the nature of things.

Radium and Helion.

Considerable discussion by eminent leaders of both physical and chemical science has been based on the question as to whether the statement that the production of helion from radium has established the fact of the gradual evolution of one element into others. Lord KELVIN disputes it and suggests that radium contains helion much in the same way as does the mineral clevite which yields that gas when heated in vacuo. The Hon. R. J. STRUTT, however, points out that the supply of helion obtainable from radium is constantly renewed, and Sir OLIVER LODGE cites Professor RAMSAY'S and Professor SODDY'S experiments in which the emanation from radium was inclosed in a vacuum tube and its spectrum examined. There was no sign of helion at first—as there would have been had it been merely an ingredient in a mixture—but the helion spectrum gradually made its appearance in the course of a day or two at approximately the rate to be expected on the disintegration hypothesis. The position may be summed up by quoting Sir WILLIAM CROOKES'S words on the subject at the meeting of the British Association for the Advancement of Science which was held in August at York. He said that "so little was known about this subject that it was the duty of every worker to throw his knowledge into the common pot to be boiled down and assimilated into something useful." We cannot leave this subject without referring to the lamentable accident which befel one of its most brilliant investigators in April—Professor CURIE—and put an end at a very early age to a splendid and promising career.

The Chemistry of Proteid.

Medical science will not be slow to recognise the importance of pursuing the study of the composition and the constitution of the proteids and during the year fresh light has been thrown upon the architecture of the albumin molecule, chiefly by the researches of EMIL FISCHER, than whom no one has contributed more fruitfully to our ideas of structural or stereo-chemistry. Starting with amino acids he has succeeded in constructing bodies known as peptides and polypeptides, which represent intermediary products of albumin degradation. The synthesis of the polypeptides may be regarded as the first stage in the artificial construction of an albumin molecule, and thus a very interesting light may be forthcoming as to its behaviour in the metabolic processes. Such acquired knowledge is calculated to deepen our insight into the etiology of those diseases, such as cancer, which is at present obscure and to lead ultimately to a means, if need be, of controlling cellular activity by increasing or diminishing it.

The Coal Tar Jubilee.

The year witnessed the celebration of the coal-tar colour jubilee and men of science from all parts of the civilised world met in the Royal Institution on July 26th to do honour to Sir WILLIAM HENRY PERKIN who, by his discovery of the first aniline dye from coal tar, became the founder of the great modern dye industry. This discovery had a profound influence on the progress of medicine. The recovery of by-products from coal tar made antiseptic surgery possible, and, putting aside the innumerable drugs which are now prepared from coal-tar derivatives, an enormous impetus was given to bacteriological science, and, therefore, preventive medicine, by the discovery that the appearance of the organisms of disease could not only be accentuated by the use of coal-tar dyes but that the organisms themselves could be differentiated also.

Electrically produced Fertilisers.

Since the sensational prediction of Sir WILLIAM CROOKES in his presidential address to the British Association for the Advancement of Science at Bristol in 1898, to the effect that the wheat supply of the world would fail unless we found fresh sources of fertilisers for the soil, considerable attention has been given to the direct production of nitrate from the atmosphere by both chemical and electrical means. The latter method is attracting more interest than the former, especially as water power may be used directly for the production of the electric current. Interesting examples of this occur at Niagara and in Norway. The method consists in converting the nitrogen of the air into nitrous vapours, which takes place by passing air through "a roaring disc of flames" or electric discharges about six feet in diameter. The nitrous fumes are absorbed in water and in quicklime and the product gives excellent results in agriculture. The absorption of atmospheric nitrogen by plant life would appear to be too slow for the world's increasing needs, but the grim prediction that this dispensation will cease by a process of starvation may be safely dismissed if the electrical production of nitrates from the air succeeds as it is said to do.

Synthetic Rubber.

Amongst the necessities of modern life must surely be counted rubber. The demand on the natural sources of rubber are strained and this has stimulated inventors to cast about for a substitute, with a success, however, which so far does not threaten to make us independent of the natural article. Professor WYNDHAM DUNSTAN at the meeting of the British Association for the Advancement of Science at York expressed his conviction that very soon a satisfactory substitute would be found. In the course of his address he gave an interesting account of the indiarubber industry, and added that chemists may confidently predict that before the Association again meets at York the synthetic production of rubber will be a fully accomplished fact. If the British Association adopts the same rule in future as it has done in the past as to its annual places of meeting, this should mean that this achievement will be made during the next 25 years, since it was in 1881 that the Association met last in York. The present enormous application of indiarubber would make a shorter interval desirable, and we are sure that Professor DUNSTAN meant that the discovery of artificial rubber is actually imminent.

The Rusting of Iron.

The familiar phenomenon of the rusting of iron has received special investigation. The result, as is so often the case with apparently simple things, shows that the ordinary view that iron rusts because it attracts the oxygen of the air under moist conditions is incorrect. Dr. G. T. MOODY has proved by experiment the negative behaviour of oxygen towards iron in the presence of water and oxygen so long as carbonic acid is absent. The moment, however, that carbonic acid gas is admitted rusting immediately takes place.

The Neglect of Science.

The fact that science is not gaining advancement in regard to public and official consideration and support has been a favourite theme in the discourses of scientific men during the past year and it is to be hoped that ere long the community will awake to a real understanding of the true nature and object of scientific inquiry. It is only too obvious that the claims of science are being ignored by Ministers of State and by others in authority, while, generally speaking, the public are ignorant of, or indifferent to, the relations of science to the public weal. Science is very inadequately represented in Parliament and those in office know little and care less about practical scientific progress. This failure to recognise the claims and practical importance of scientific research is a serious menace to the welfare and prosperity of the country. In this matter as in others it behoves the country to bestir itself that its splendid traditions may be preserved and that the prosperity of the generations to come may be secured.

THE GENERAL MEDICAL COUNCIL.

The General Medical Council during the year has held two sessions, the combined duration of which only amounted to nine days, but none the less (or all the more) good work was done, while the lines were carefully laid down for its continuance in the near future. As we had occasion to remark in a leading article only a few weeks ago, he is no true friend to the medical profession who desires to have the sessions extended merely that we may hear the reiteration of acknowledged facts and admitted arguments. The curtailing of the sessions that has recently taken place is of great financial benefit to the Council, while there has been no unreasonable stifling of debate.

The most important event of the summer session was the publication of a valuable report by the Students' Practical Midwifery Committee on the operation of the rules regarding the midwifery practice required from candidates for medical qualifications. There is no branch of the medical profession that brings the practitioner into closer relations with the public, that entails upon him more anxious and delicate care, that earns him more gratitude when his administrations are successful, than the practice of midwifery, and when the Council set itself to look closely into the way in which the existing regulations are obeyed by the different qualifying bodies it undertook a task of great importance to the medical profession as a whole. The report of the special committee in question, which will be found on p. 16·7 of Vol. I. of THE LANCET for 1906, closed with a recommendation which if eventually adopted should, we think, insure the practical education of the medical student in obstetrics. At the present moment the medical student is required to have conducted not less than 20 cases of labour before he can enter for his final examinations, but there are no general rules compelling him to be educated up to a point before giving such attendance that would insure his ability to derive full educational benefit from his clinical experience. Various hospital authorities have taken steps in behalf of the women outvisited to insure the obstetric aid given by the charity being free from risk to the patient, but there is no hard- [illegible] he matter. The recommendation of the Students' Practical Midwifery Committee would compel the medical student before conducting his 20 cases of labour to have held the office of clinical clerk or dresser, to have attended lectures in medicine, surgery, and midwifery, and to have given one month's undivided attention in the obstetric wards of a recognised institution to cases of labour under the supervision of the medical officer of the institution. Copies of this report and its ensuing recommendation were ordered by the Council to be circulated among the licensing and teaching bodies of the United Kingdom, and as a result valuable comments and criticisms were received by the Practical Midwifery Committee. These having been considered resulted in some modification of the recommendation quoted above, and its new shape, which is an alteration and expansion of detail only, will be found in THE LANCET of Dec. 8th, p. 1606. In this form the recommendation is again before the various educational bodies, but the President has received assurances that the answers of these bodies will not be long delayed. If the indicated reforms can be carried out, the reproach that our medical students obtain no proper experience of one of the most important sections of their professional work will be removed, but the month's instruction in a recognised institution presents practical difficulties.

The most interesting debate at the winter session was that which followed upon a motion by Sir JOHN BATTY TUKE to the effect that the subjects of the curriculum should be divided into two groups, one comprising the preliminary and ancillary sciences and the other the professional subjects, and that the Council should instruct no licensing body to recognise instruction in any subject of the second group until the candidate had passed all the subjects in the first group. That is to say, Sir JOHN BATTY TUKE wished to have a block introduced between the students' instruction in the school proper and the students' instruction in the wards as the simplest, readiest, and most effective way of grouping the subjects of the curriculum. A keen debate ensued upon the recognised problem that (1) the subjects of medical education tend to multiply and become more complicated; that (2) consequently many students find a curriculum of five years too short to comply with the demands upon them; and that (3) for economical reasons it is perhaps unwise as well as unpractical to consider the question of legally lengthening the curriculum. Sir JOHN BATTY TUKE'S proposal has much to recommend it. It is simple and would tend also to simplify the schedules of examinations in scientific studies, for no educational authority would long remain popular with students which imposed any excessively severe barrier to admission to the wards. But there is much to be said against a block which separates anatomy and physiology from medicine and surgery, and much to be said in favour of not hampering all educational authorities with the same hard-and-fast rule. The ideal method of rearranging the medical curriculum within five years has not yet been hit upon, and the Council does well to deliberate fully upon this difficult subject before acting. But action soon must come, for the present position is admittedly an unfortunate one.

The election of three Direct Representatives for England and one for Scotland upon the Council took place during the second week in December. For the four vacant seats three of the old candidates stood, but in each case with ill success, and the medical profession of England and Scotland have now four new representatives at the Council table.

THE BRITISH MEDICAL ASSOCIATION.

The activity of the British Medical Association during the year has been unabated, and especially in matters of education and of hospital management it has expressed views which all the medical profession will endorse. The seventy-fourth annual meeting was held in Toronto and was in every way a great success. No less than 2000 persons attended this meeting in the far-away capital of Ontario, and the proceedings were characterised with something of the enthusiasm which nowadays affects all things Canadian—the congress was a success if only because it was held in a highly successful country. English visitors were, we hope, prepared for the high level of professional instruction and the liberal facilities offered to medical students in Toronto by a series of articles published during the summer in The Lancet telling the history of medical education in the city during the century recently completed. The great influx of visitors from the home country was reinforced from the United States and the American visitors held their own in many of the sectional discussions. The papers of Dr. Probst, Dr. S. Dixon, and Dr. Homan in the section of State Medicine, of Dr. P. M. Dawson and Dr. Stengel in the section of Medicine, of Dr. Clowes in the section of Pathology, and Dr. Mendel in the section of physiology were, for example, valuable contributions to debate and this was evidently recognised by the many distinguished men of science in this country and in Canada whose papers and speeches we published. Many references during the meeting were made by Canadians to the alleged ignorance of their country displayed by Englishmen, and some of their references were, we think, a little out of date. However, those who had charge of the arrangements made for social entertainments and excursions in connexion with this meeting were determined that, so far as familiarity with so immense a country could be obtained in a few weeks, the visitors connected with the British Medical Association should obtain it. Not only were tours arranged to see the Niagara Rapids and Falls, Muskoka Lakes, and other comparatively neighbouring points of interest, but special facilities were offered by the Canadian Pacific Railway to enable members of the Congress to make the journey across the Rocky Mountains to the Pacific Coast and Vancouver. The results of the last annual meeting of the British Medical Association may, therefore, be quite wide spread, for they mean the familiarising of a large body of men, capable of judging of the extent of social progress when it is spread before them, with the remarkable proofs of material prosperity offered by the Dominion of Canada.

THE FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

In good time before the assembly of the Fifteenth International Congress of Medicine at Lisbon we described the sea routes and the overland routes to Lisbon. This information was of practical use as several members of the Congress graciously testified. Then, just as the Congress was about to meet, we published an article indicating what to see at Lisbon. At that time the storm in regard to the Chicago stockyards was brewing but had not yet reached this side of the Atlantic. Foreseeing its advent our special sanitary commissioner gave an account of the Lisbon slaughter-house, where the animals are killed by independent municipal employees who have nothing to gain in passing unwholesome meat. The cattle dealer and the butcher are excluded from the slaughter-house. The one brings the cattle, the other takes out the meat, but the municipal authority alone turns the cattle into meat. This is certainly the most radical of all methods of dealing with the meat-supply. Thus early the members of the Congress were made aware that there were laws and institutions in Portugal worthy of their attention. It was also discernible from the first that this time the Congress was well organised. Whatever fault-finding afterwards arose the members themselves and not the organisers were to blame. Many of the sections were very badly attended, but that was the members' own fault if they preferred sight-seeing to hearing scientific papers. If these papers were not read in a regular prearranged order it was because the authors were not present at the time when their names were called, and therefore someone else had to take their place. Again, if the greater part of the British delegation were uncomfortable on board their ship because it was overcrowded and anchored far away from the shore, that was in no wise the fault of the Portuguese organisers of the congress. We published a map of the Lisbon harbour, of the sewer outfalls, and of the place where the *Ophir* was anchored. In this map it is easy to see that had this ship which was carrying the British members moored longside of the quay, as at first arranged, it would have been farther from the sewers, and the members could have stepped on shore instead of taking small boats which had to pass in front of the mouth of one of the worst sewer outfalls. The Congress opened on April 19th, when the weather was so cold and boisterous that the British members on board the *Ophir* were not able to land to assist at the reception given at the New School of Medicine which was inaugurated by the Congress. The Germans, whose shi the *Oceana* had taken the berth alongside, originally re served for the *Ophir*, were present in great force. The had enjoyed on board every comfort and luxury and thei delight and their praises of their ship contrasted vividly wit the lusty grumbling of the British members. As floatin hotels, the great continental lines of passenger ships ar competing very successfully against British ships and thi matter should be seriously taken in hand. Though Portuga is but a small country and Lisbon is not a large town, th entertainments and the hospitality shown were all that coul be desired. In great contrast with several of the previou congresses, *fêtes* and receptions were all admirabl organised. The tickets were punctually delivered to thos who, on their side, had duly observed the rules and ther were no unseemly crushes or fights for the buffets. Th gala bull-fight, including a sail up the Tagus in a fleet o steamers, with lunch on board, was a masterpiece of organisation; and the members of the congress were delighted to see that the Portuguese managed to retain all the picturesque aspects of the Spanish bull-fight with none of its cruelties. The King's garden party, the floral decorations of the town hall at the municipal reception, the excursion to Cintra, and the lavish hospitality of Sir Francis Cook at Monserrat, will for long be gratefully remembered. But above all the organising genius of the general secretary, Dr. Michel Bombarda, has served to provide an example of how such congresses should, and can, be organised. At Madrid, three years previously, various extortions had been practised by travelling and tourist agencies and this had added greatly to the trouble. Little or nothing of this sort occurred at Lisbon. The Booth line, which has almost a monopoly in the organising of excursions within Portugal, helped very materially to prevent extortionate charges and by this wise policy has encouraged a great number of persons to visit and to spend their holidays in Portugal.

The Congress itself, as stated above, was formally opened in Lisbon on April 19th, under the patronage of the King and Queen of Portugal. The president of the Congress was Dr. Costa Alemão. The meetings, with some exceptions as we have indicated, were fairly well attended but no pronouncement of the first importance was made. The pathogenesis of arterial hypertension was considered by Dr. Trunecek (Prague) and Dr. Henri Huchard (Paris). The treatment of cirrhosis of the liver was considered by Dr. R. Saundby (Birmingham) who advocated repeated paracentesis for the relief of the ascites, the operation to be carried out as soon as the fluid had accumulated sufficiently to cause discomfort. Dr. Judice Cabral communicated a long paper on Cerebro-spinal Meningitis. With regard to the treatment of the disease he considered the best method to be lumbar puncture either alone or followed by the injection into the spinal canal of a 1 per cent. solution of lysol or of cyanide of mercury. Dr. E. W. COLLINS (Sydenham) described an instance which had come under his own observation of the very rare, progressive, and incurable dyscrasia known as "myositis ossificans." The condition occurred in a girl at that time eight years of age. The bony kernels resembling enlarged glands were noticed in the neck a year after her birth. It would, however, take too long to enumerate the many papers of interest that were read. This we were unable to do at the time of the Congress though for several weeks we devoted many columns to the subject. For these details it will be necessary to refer back to what was then said; or, better still, to the official reports of the Congress that are now beginning to appear in book form. The section devoted to public health or hygiene was certainly the best attended. Here Professor LOEFFLER made a very interesting communication concerning his experiments in the prevention of foot and mouth disease. These proved that it was possible to obtain a vaccine by adapting artificially the agent of a disease attacking two species, cultivating, in the case of foot and mouth disease, this agent in the body of sucking pigs and inoculating it in the other species such as bullocks. The relation of the mosquito to yellow fever was the subject of a debate in which Sir RUBERT BOYCE of Liverpool, Dr. AGRAMONTE of Havana, and Dr. CORTEZO of Madrid took part and during which a new point was raised—namely, that the egg might bring forth the pathogenic mosquito and that this might explain facts that seemed to contradict the mosquito theory. The section passed several resolutions on public health questions, notably one demanding that legislation for the protection of workers from trade diseases should be assimilated internationally, so that the fear of foreign competition should not prevent the adoption of necessary and humane measures. But, above all, the Congress was useful in bringing together eminent men of science from a great variety of countries. The personal friendships contracted and the informal conversations held outside the meetings of such congresses are quite as valuable to the cause of science as the formal proceedings in the sections. It would be impossible otherwise to make so many acquaintances living at great distances one from the other. The knowledge of a book and personal acquaintance with its author are two very different matters. These international gatherings stimulate the desire to acquire a better insight of what has been done, thought, and said on the other side of the frontier. Thus is wisdom more widely diffused to the greater glory of science and the material benefit of humanity.

SANITARY PROGRESS IN PORTUGAL.

At the conclusion of the International Medical Congress our Special Sanitary Commissioner profited by the opportunity to visit and to describe some of the health and pleasure resorts of Portugal. Evidently the country has a good future; and if success has been deferred it is because the Portuguese are lacking in the business capacity of making the best of their opportunities. Our commissioner visited and described Mont Estoril, Cascaes, the university town of Coimbra, and the beautiful forest of Bussaco. The last-named certainly seems to be unique. In no other country would a palace, converted into a hotel, be found in the midst of a vast estate which belongs to Carmelite monks and which has been protected from desecration by two special Papal Bulls. Here trees and seeds, brought by the earliest Portuguese navigators, have been able to grow and to multiply in peace. Under timber many centuries old, in the midst of mountain air, overlooking vast panoramas and surrounded by tropical vegetation, the invalid and holiday seeker will find an ideal resting place. Within a short distance, Coimbra, a curiously built town, is full of rare antiquities, though its municipality is striving to introduce very modern institutions, and its university professors endeavour to keep in line with the most recent developments of science. At Mont Estoril there are climatic advantages useful in the treatment of many diseases, but patients suffering from pulmonary tuberculosis are rigorously excluded. Our sanitary commissioner also described at great length the various institutions at Lisbon which contributed to promote the public health such as the isolation hospitals, the institution of hygiene which gives diplomas of public health, the cheap dwellings, the cheap kitchens for providing wholesome meals to the poor, the institutions for helping mothers to suckle and to nurse their infant children, the methods of disinfection and notification of tuberculosis, and the anti-tuberculosis institutions. Finally, there were descriptive and illustrated accounts of the new Portuguese quarantine regulations by which security from the importation of infectious disease is more efficaciously obtained than in the past, while there is less interference with the liberty of travellers and the rapid transit of merchandise. The old and sinister lazarets and the modern disinfecting stations were fully described with all the conveniences now afforded to travellers.

GENERAL ASSEMBLY OF THE INTERNATIONAL ASSOCIATION OF THE MEDICAL PRESS.

During the two days preceding the assembly of the Fifteenth International Congress of Medicine representatives of associations of the medical press that exist in various countries met to discuss their interests as an international organisation. The opening sitting took place in the great hall of the new School of Medicine and the Portuguese Government was represented by Senhor ABEL D'ANDRADE, the General Director of Public Instruction. The usual complimentary speeches were made. The Associations of the Medical Press of Belgium, Brazil, France, Germany, Great Britain, Mexico, Spain, and Portugal sent representatives. This being the general assembly of the association all the officers had to be elected. Professor POSNER of Berlin was now appointed President in the place of Dr. CARLOS M. CORTEZO of Madrid, whose period of office had terminated; Professor BOMBARDA (Portugal), Dr. DÉJACE (Belgium), and Dr. ASCOLI (Italy) were elected Vice-Presidents; Dr. R. BLONDEL (France), general secretary; and Dr. DAWSON WILLIAMS (Great Britain), general treasurer. It was decided that the committee of the association should meet in London early in August, 1907. The assembly discussed several technical points and also the possibility of checking the publication of bogus medical journals issued in order to advertise the products of various firms and gratuitously distributed. A great deal was also said about important discoveries made by obscure persons. These were often buried in a small local paper till such time as some celebrity re-discovered the same thing, and being himself well known was able to proclaim the discovery to the whole world. An international association of medical journals might help to prevent such injustice. Then, again, the question as to what sort of advertisements could be accepted and what should be refused was debated. The publication by lay papers of medical advice given to correspondents was defined as a form of illegal practice of medicine, and instructions were drawn up as to what legislation was desirable and as to how the medical press of the different countries could help to promote such reforms.

HOSPITAL FUNDS.

Metropolitan Hospital Sunday Fund.

Under the presidency of Sir WALTER VAUGHAN MORGAN, Bart., as Lord Mayor of London, the year's collection, the thirty-fourth, amounted to £63,074. During the course of the year the Fund has sustained two most serious losses by the death of its Vice-President, Sir SYDNEY WATERLOW, Bart., K.C.V.O., who had been connected with the Fund since its foundation in 1872 and was chairman of its distribution committee for 33 years, and by the death of Mr. GEORGE HERRING who had been such a generous benefactor to the Fund and whose business abilities were of the greatest help in the work of administration. In 1899 and in each of the two following years Mr. HERRING gave £10,000 to the Fund and after that until his death he added each year to the amount collected in places of worship and in the City a sum equal to one-fourth of its total. In this way the suffering poor in the London hospitals have benefited at the hands of Mr. HERRING to the extent of over £89,000. The Fund, however, will not lose financially by this generous donor's death, for under his will a sum of about £600,000 will eventually accrue to it. The collections in the various places of worship this year resulted in an amount of £44,647, being £4307 less than the amount contributed in 1905. The Metropolitan Cathedral of St. Paul's heads the list with £4812 4*s.* 8*d.* The following are the collections from contributing churches and chapels: St. Michael, Chester-square, Rev. Canon FLEMING, £1357; Christ Church, Lancaster-gate, Rev. F. GURDON, £1012; St. Peter, Eaton-square, Rev. Prebendary STORRS, £740; St. Mary Abbots, Kensington, Rev. Canon PENNEFATHER, £643; St. Peter, Vere-street, Rev. Canon PAGE ROBERTS, £613; Holy Trinity, Sloane-street, Rev. H. R. GAMBLE, £412; St. Paul, Onslow-square, Rev. Prebendary WEBB-PEPLOE, £368; St. Jude, South Kensington, Rev. Prebendary EARDLEY WILMOT, £346; St. Peter, Cranley-gardens, Rev. W. S. SWAYNE, £339; St. James, Piccadilly, Rev. Canon McCORMICK, £321; St. George, Hanover-square, Rev. DAVID ANDERSON, £307; St. Mary, Bryanston-square, Rev. H. RUSSELL WAKEFIELD, £301; St. Paul, Knightsbridge, Rev. Prebendary VILLIERS, £295; All Saints, Ennismore-gardens, Rev. W. R. INGE, £234; Christ Church, Chislehurst, Rev. G. H. POLE, £224; St. Nicholas, Chislehurst, Rev. J. E. LE STRANGE DAWSON, £216; Church of the Annunciation, Portman-square, Rev. Prebendary E. B. OTTLEY, £214; St. Paul, Portman-square, Rev. J. STUART HOLDEN, £212; St. Marylebone Parish Church, Rev. Canon BARKER, £205; Theistic Church, Swallow-street, Rev. CHAS. VOYSEY, £325; West London Synagogue, Rev. Dr. MARKS, £322; Great Synagogue, the CHIEF RABBI, £252; Union Chapel, Islington; Rev. W. H. HARWOOD, £234; Lyndhurst-road Church, Hampstead, Rev. R. F. HORTON, D.D., £125; Essex Church, Kensington, Rev. F. K. FREESTON, £213; St. Columba, Pont-street, Rev. A. FLEMING, D.D., £211; St. Paul Presbyterian, Westbourne Grove, Rev. R. ROBERTS, £122; Greek Church, the ARCHIMANDRITE, £90; Victoria Park Christian Evidence Association, Mr. T. COLE, £84; German Church, Denmark Hill, Rev. Professor HACKMAN, £72; Dutch Church, Austin Friars, Rev. S. B. DE LA FAILLE, £64; Brompton, The Oratory, Rev. H. D. S. BOWDEN, £58; Farm-street Church of the Immaculate Conception, Rev. O. S. GALTON, £47; Ferme Park-road Chapel, Hornsey, Rev. CHARLES BROWN, £43; Wanstead Friends Meeting, Mr. THEODORE GODLEE, £40; Gordon-square Catholic Apostolic Church, Mr. H. S. Hume, £40; and Blackheath, The Avenue Wesleyan Church, Rev. JOSIAH BANHAM, £38. The late Mr. GEORGE HERRING again added one-fourth to the amount collected in places of worship and generously extended his gift to a special collection in the City. His donation amounted to £11,000. Mr. WILLIAM HERRING and Mr. CHARLES MORRISON gave donations of £1000 each; Sir SAVILE CROSSLEY again divided his contribution of £1000 between this fund and the King's Fund and "Delta" sent his twenty-eighth donation of £200. A sum of £3000 has been received from the executors of the late Mr. HERBERT LLOYD on account of the legacy of £10,000 bequeathed by him to this Fund in 1901. A legacy of £73 8*s.* 9*d.* from Mr. WILLIAM BIRT, beadle of Castle Baynard Ward, has bee received by the Lord Mayor. Awards were granted to 16 hospitals and institutions, 60 dispensaries, and 26 nursin associations. The success of the Metropolitan Hospita Sunday Fund always depends in a great measure on th Lord Mayor, who is *ex-officio* president and treasurer of th Fund, and this year the hospitals and all interested in the owe a deep debt of gratitude to the labours and influence the late Lord Mayor, Sir WALTER VAUGHAN MORGAN, Bart

King Edward's Hospital Fund for London.

The continued success and importance of this Fund a shown by the fact that application has been made to Parli ment for a short Act to incorporate the Fund and to place i administration upon a strictly legal basis. The amou received for general purposes by this Fund during the pa year after payment of expenses was £89,915, and in additi legacies to the amount of £35,000 have been declared b not paid. At a meeting of the general council of the Fu held on Dec. 17th under the presidency of the PRINCE WALES the report presented by the executive co mittee recommended the distribution of £110,000 the London hospitals, making together with £1000 intrust to the Fund by the London Parochial Charities for co valescent homes a total distribution of £111,000. T amount contributed to the Fund by the League of Me was £18,000, as against £15,000 contributed in 1905. T number of hospitals applying for grants was 105, as agai 106 last year. Not the least important part of t work done by this Fund has been the successful effo made by one of its committees to promote economy hospital expenditure. Two years ago the Fund prepa a comparative analysis of the prices paid for go and of the cost of the various departments of expen ture in the cases of 16 large general hospitals of Lond and it was found that some institutions were paying twice much as others for the same supplies. This year a report the subject was issued which shows that by the coöperat efforts among 16 large general hospitals in London a savi of over £20,000 in the yearly expenditure has been made.

Hospital Saturday Fund.

The various departments of this Fund have made ste progress and it is hoped that when the books are made up January they will show a record collection for 1906. Up Dec. 15th the total receipts of the Fund amounted to £18,5 as against £18,659 in the corresponding period of 1905. T Surgical Appliance Department received £3008 from patie in part payment of appliances, as against £2606 in 1905.

THE FREE FEEDING OF THE SCHOOL CHILDR IN ITALY AND ON THE FRENCH RIVIERA.

Milan, Vercelli, and San Remo.

More than two years ago we were, we believe, the first publish in the English language a full account of the P *cantines scolaires.* The question of physical degenerat was then occupying public opinion and the insufficient improper feeding of school children was said to be one the contributing causes. An agitation had arisen in fav of providing meals for children during the school hours and there was a vague impression that something of the sort was done in France, but no very precise knowledge existed on the subject. Our Special Sanitary Commissioner consequently went over to Paris, inquired into the matter thoroughly, and his history of the *cantines scolaires* was published in our columns on Sept. 17th, 1904. Since then this description has frequently been quoted in and out of Parliament, more or less incorrectly, and almost invariably without acknowledgment. This year, as the feeding of the school children has been the subject matter of one of the Government Bills, our Commissioner extended his investigations further afield. We have published several accounts respect in Italy and on the French Riviera. At the Milan Exhibition, in the Educational Section, there were many photographs, reports, and other documents showing that all over Italy, and even in Sicily the municipalities had organised the feeding of the children in the primary schools. It is true that the children were not always given a genuine good meal. In many cases the prevailing idea was not to feed the children but simply to recoup the exhaustion occasioned by two and a half hours' schooling. By that means the children could work for another two and a half hours before going home, where it was supposed they would be properly fed. Numerous scientific experiments were made which went to show that the waste of calories and nerve energy during two and a half hours was compensated by from 100 to 140 grammes of bread, according to the age of the child, and 20 grammes of cooked or 14 grammes of raw *salame* or 20 grammes of *cheese*. Though bread is dearer in Italy than in England this should not cost more than ½d. per meal. But the *refezione scolastica*, as it is called, when organised according to these chemically defined rations has occasioned much dissatisfaction. It is cheap because it does not require plates, knives, forks, kitcheners, or cooking, but it is cold and cheerless and the Italian child wants hot, comforting *minestrone* or the substantial dish of warm and well-flavoured maccaroni. This is what the municipality of San Remo now abundantly provides. By far the most interesting experience is that of the small cathedral town of Vercelli, half way between Milan and Turin. Here a Conservative municipality inspired by the deputy Signor PIETRO LUCCA, who at one time had been a Cabinet Minister of a Conservative Administration, introduced not merely the free feeding, but the obligatory feeding, not only of the poor but also of the well-to-do children. This was the more remarkable as the free feeding of the children had at first been opposed by the Italian Government and qualified as a Socialistic and dangerous measure. To-day opinion has entirely changed and all the political parties vie with each other in encouraging the municipalities to provide the best and most ample means of supplying the children with a satisfactory mid-day meal. At Vercelli the question of feeding was connected with that of education as distinct from teaching. It was held that the child, instead of going home during the mid-day recreation time, should stop and play and eat at school. During the class hours the master could instruct him; during recreation time the master could educate him. In the streets the children contracted bad and vulgar habits; at school they would be so educated as to play courteously with one another, and by eating together at the same table rich and poor alike would realise that they all belonged to one great family, owing to each other the duties of brotherhood. This, it was thought, would help to soften party and class differences, and thus the free meal to school children would become the first object-lesson in the duties of citizenship Such, in any case, were the ideas which were brought forward to induce the Vercelli municipality to compel all to take part in the meal. Only those who could get a medical certificate saying that such meals would not agree with them were exempted, and in this manner about 10 per cent. of the children were able to absent themselves. The difficulties in carrying out these principles and the details of administration were fully described. The working details of the *refezione scolastica* were examined on the spot at Milan, Vercelli, and San Remo, and formed the subject matter of the reports published in these columns.

Mentone and Nice.

Crossing the frontier our commissioner inquired into the organisation of the *cantines scolaires* at Mentone and Nice. These places were selected because this is the time of year when so many English patients and pleasure-seekers visit the French Riviera. Also, as there is not much poverty in these winter resorts, the organisation of *cantines scolaires* has been somewhat neglected. Thus the situation in the Riviera towns is more similar to that in England, particularly as both here and there a great awakening as to the importance of the subject has taken place So far there has been a tendency to let matters take their course and to trust to charitable agencies where obviously the children's parents were too poor to provide enough food, clothing, or the school books necessary. Indeed, there is on the Riviera and many other parts of France a charitable society for this express purpose and it is called "the halfpenny of the secular schools," *le sou de l'école laïque*. People collect halfpence so that there should be means of giving charitable relief in the State or communal schools as well as in the private or clerical schools. But now the latter are abolished and the monks and nuns are no longer allowed to teach. Therefore there will be a much larger proportion of necessitous children frequenting what in England used to be called the board schools. Consequently all the municipalities are bestirring themselves to improve such organisation as exists or to create it where it does not exist, as is the case at Mentone. At Nice it has in most cases been found sufficient to provide kitchens, cooking utensils, cooks, and attendants. No municipal subvention was necessary to cover the cost of food. This was paid for by the children aided by some charitable donations; but this favourable financial situation is due to the fact that the majority of the children did pay. Now, however, that the proportion of very poor children will be augmented there is likely to be a deficit which the municipalities will have to meet out of the public funds. In any case, the position is illogical. The children of well-to-do parents obtain their meals cheaply—namely, 1½d per meal—because the taxpayer provides them with kitchens, cooks, and crockery. The well-to-do children also profit from charitable donations which sometimes are so large that much more than 1½d. is spent over the meals and pastry and delicacies are provided. On the other hand, the poor who do not pay at all get all this equally with those who do pay. Then, when there are no donations from the outside, the money of the children who do pay is employed to feed those who do not pay, so that the child who pays 15 centimes gets only 10 or 12 centimes' worth of food.

SANITATION.

The Gibraltar Water-supply.

The gigantic undertaking which, when completed, will provide the great fortress of Gibraltar with an inexhaustible supply of drinking water was described by our sanitary commissioner in 1903 and was again visited this year. The wells at Gibraltar have been condemned and their water and all low-level water is only used for what is inappropriately called the sanitary water-supply. This is the dangerous water, the water that must on no account be drunk, but then it is used for a sanitary purpose, the flushing of drains and sewers, and hence its name. The drinking water is rain water gathered on the roofs of the houses by individual inhabitants and high up on uninhabited portions of the rock by the authorities. Here four large reservoirs holding in all 5,000,000 gallons have been dug deep into the mountain and well away from the fluctuations of temperature or chance shells fired by a possible enemy. To fill these reservoirs 14½ acres have been cemented and rendered water-tight. But this is not enough and now a great tunnel has been pierced right through the rock which will serve as an aqueduct to bring water from the other, or Catalan Bay side, to Gibraltar. Here there is a vast smooth sand slide. Forty acres have been covered over with corrugated iron and serve as a catchment ground. It is proposed to cover over 30 acres more and to build other reservoirs or to use a part of the tunnel as a reservoir and thus to create space for the storage of 17,000,000 gallons of pure rain water. The actual storage of 5,000,000 gallons suffices unless there is a very dry season, but with 17,000,000 gallons Gibraltar will be safe against all emergencies and will be able to do away with the less safe practice of gathering water on the roofs of the houses. Already typhoid fever, which used to be very prevalent, has almost entirely disappeared, and the deaths from infectious disease have been reduced by about 50 per cent. during the last 20 years. The sanitary commissioners and their engineer, Mr. W. W. COPLAND, were warmly congratulated on the successful piercing of the tunnel and their remarkable scheme. The only inhabitants of the "Rock" who are not pleased are the monkeys and they have shown their dissatisfaction in a very troublesome manner. They arm themselves with large stones, climb to some vantage ground, and then hurl their missiles down on to the corrugated iron with such force that they pierce holes in this catchment and a considerable portion of the water escapes into the sand underneath.

TEMPERANCE LEGISLATION IN FRANCE.

Under this heading a series of exhaustive articles were published showing what measures have been adopted in France to check the spread of alcoholism and drunkenness. The French make a marked difference between these two terms, looking upon drunkenness as a minor evil, while alcoholism is considered as equivalent to the destruction of the human race. Then comes the apparently strange assertion that a man who has never been drunk may become the victim of alcoholism while another who does occasionally get drunk may live to a ripe old age and be perfectly free from the taint of alcoholism. Instead of wildly denouncing every form of beverage containing alcohol, as is the wont of the teetotal advocate, the French Legislature, inspired by the debates of the international congresses of hygiene, have made wise discriminations. At Budapest, in 1894, the International Congress of Hygiene advocated the augmentation of taxation on spirits and the reduction of taxes on beer and wine. Where spirits are distilled these should be under the strictest Government control or, better still, they should constitute a Government monopoly, as in Russia and Switzerland. It is the separation of alcohol from that which produces alcohol which is particularly dangerous, while, on the other hand, the alcohol which results from the natural process of the fermentation of a fruit juice or of wholesome barley and hops might intoxicate but was not likely to produce the disease known as alcoholism. This is no theory but a geographical fact. A glance at the map suffices to show that all the countries where drunkenness and alcoholism are practically unknown are wine-producing countries. Hence the term "hygienic drinks" arose as applied to those beverages where the alcohol is not separated, extracted, or distilled from the liquid in which it is formed—namely, the juice of grapes, apples, pears, barley and hops, or honey. In that case the amount of alcohol is very small—from 2 per cent. for the weakest cider to about 14 per cent. in the stronger among the light natural clarets. In this beer is included, on the condition that it is made only from barley, hops, yeast, and water. The Bavarian law for 500 years has rendered it a criminal offence to add any other substance whatsoever to beer. Hence, Munich beer holds a forefront rank among the hygienic drinks.

Now that France, by the utilisation of American plants, has completely recovered from the disastrous effects of the phylloxera, wine is produced in such abundance that it is essentially the poor man's drink and should replace all the unwholesome and more expensive spirits that poison entire populations. There was, however, one obstacle in the way; though wine is so cheap the taxes were high. In Paris the *octroi* or town dues levied on wine amounted to no less than 10 francs 62 centimes the hectolitre. In the provincial towns it was less but still very high. The French Parliament, impressed with the fact that with the prevalence of the phylloxera and the consequent dearness of wine, drunkenness had increased and that all experience proved that cheap wine was the most practical means of promoting temperance, passed a law restricting the right of towns and rural communes to tax hygienic drinks. The highest *octroi* is not to be more than 2 francs 25 centimes the hectolitre for towns above 50,000 inhabitants and 4 francs for Paris. In smaller towns the tax must be much less. But Paris, not to be outdone by the Parliament, altogether abolished the *octroi* on hygienic drinks. This was a heroic measure, for it meant the sacrifice of a third of the annual revenue derived from the *octroi*—namely, £2,290,000 out of about £6,200,000. How this great loss of revenue for the purposes of local government was replaced by other taxes was fully explained. The *octroi* on spirits, which are the principal cause of alcoholism, was doubled. The State increased the general tax on spirits from 156 francs 25 centimes to 222 francs the hectolitre and as the Paris *octroi* is now doubled the State and the local tax paid on spirits drunk in Paris actually amounts to 415 francs or £16 12*s.* the hectolitre or 22 gallons. In England the tax on spirits is only £13 the hectolitre, while in Russia it is £20. The result of all this legislation is that excellent sound wine is now retailed in Paris at from 2*d.* to 3*d.* per litre. Thus wine is drunk in Paris at, in round figures, 1*d.* per pint or 1½*d.* per bottle. Of such wine samples were analysed in our laboratory and were found to be absolutely pure and wholesome. In England the Custom duty is 3½*d.* per litre; thus the duty charged is about double the wholesale cost of the wine. If to this be added the freight and bottling, wine can be obtained in London at 7*d.* per litre and should be retailed at from 8*d.* to 10*d.* per litre according to quality. The position in England is about the same as that of France during the worst days of the phylloxera, when alcoholism increased to so alarming an extent that the Senate instituted a special inquiry into the evil. The reports which we published on this matter deal also with the possibility of utilising in England the experience now being acquired in France by the policy of cheapening the cost of "hygienic drinks."

TUBERCULOSIS AND THE NORTHAMPTON BOOT TRADE.

The question of sanatoriums was dealt with extensively during 1905, when the International Congress on Tuberculosis was held. This year we dealt with some of the details rather than generalisation. Thus we published a lengthy account of the special frequency of pulmonary tuberculosis among the boot- and shoe-makers of Northampton. The position is, as set forth by the latest statistics given, that the mortality from senile decay in England and Wales was 1·27 per 1000, but it was only 0·59 per 1000 at Northampton. Then in regard to tuberculosis, in 1903 the number of deaths from this disease, after the age of 15 years, was 1·60 per 1000 in England and Wales; it was 1·82 at Northampton and 2·59 among those who at Northampton work in the boot and shoe trade. Going further into the details it was shown that among the closers and machinists the cases of tuberculosis amounted to 1·44 and 1·19 deaths per 1000 per annum out of a total death-rate of 3·28 and 3·09 per 1000, though the general death-rate of the country for adults was 9·77 per 1000. This means that these workers, about 4000 women, do not remain long in this occupation. They marry or go into some other business, but while they are engaged as closers or machinists in the boot trade there is an extraordinary and fatal prevalence of pulmonary tuberculosis among them. To remedy this evil much more effective factory inspection is needed, leading to the introduction of scientific mechanical means of ventilation. Then a popular sanatorium and a hospital should provide the means of preventing sufferers from frequenting the workshops where they are likely to contaminate their fellow workers. It did not seem, however, as if the borough council of Northampton was fully alive to its responsibilities. As usual in such cases, the council is terribly afraid of incurring any large expense and unable to grasp the fact that effective measures, however expensive, prove in the long run far cheaper than a mere tinkering. It is more extravagant to spend a small sum that yields no result than a large amount which confers widespread and unmistakable benefits.

VISIT OF THE LONDON COUNTY COUNCIL TO PARIS.

The return visit of the London County Council to the Paris Municipality, following closely upon the visit of the former body to London, was primarily a manifestation of the *entente cordiale* which has happily arisen between England and France. But if, as is undoubtedly the case, it leads to a better knowledge in France as in England of what has proved beneficent in regard to local administration the result will be doubly blessed. Undoubtedly London has much to learn from Paris and the Parisians themselves are the first to acknowledge that, especially in regard to sanitation, they have profited by the many useful object lessons which London can give. It must be confessed, however, as was explained at the time, that the intense anxiety manifested during the visit of the London County Councillors to Paris to promote the *entente* marred to some extent the qualifying word *municipale*. There were so many *fêtes*, receptions, and excursions that little or no time remained to study technical administrative questions. The programme was over-charged; everyone claimed the honour of a visit from the London Councillors, so that they were not able to remain long enough at any one point thoroughly to investigate whatever might be of technical importance. Nevertheless, they saw, if only superficially, many things that would or should have tempted individual councillors to return and to study quietly the problems involved. For instance, many schools were visited but there was no time to investigate the details of the administration of the *cantines scolaires* which provide mid-day meals to all the children. Then the municipal slaughter-house at La Villette was included in the programme, but here there was only time to drink a glass of champagne and to make a few complimentary speeches without attempting to ascertain the measures taken to prevent the sale of unwholesome meat. The same may be said in regard to the University, the hospitals, the asylums, and many other institutions also visited. There were also numerous other questions that the London County Councillors could have advantageously studied but they were not approached even in the most superficial manner. Among these may be mentioned the municipal bakery of the Rue Scipio which provides uniform bread of excellent quality to all the hospitals. Then there is the organisation of the *pari-mutuel* by which no bet can be made on the racecourse without contributing a part of the money to the relief of the poor, and the similar methods of taxing all occupied seats in theatres so that each pleasure-seeker shall first pay something for those who are suffering from poverty or sickness. The *casiers sanitaires des maisons* is also a most valuable method of recording the sanitary history of every dwelling which will be of incalculable value in studying the incidence and distribution of disease. All these and many other matters not mentioned should be investigated by everyone concerned in local government. If the visit of the London County Councillors to Paris has served to stimulate such investigations it will by the *entente* have done good service to the cause of international peace, and by the municipal character of the *entente* it will have helped to promote good local government.

THE BATTLE OF THE CLUBS.

Though but little has been published this year about the organisation of the profession yet on no previous occasion has an account been given of a grievance so scandalously derogatory to the dignity of the profession as that of the battle of the clubs at Macclesfield. Here there are burial clubs dating as far back as the year 1831 and 1833. Though three-quarters of a century have elapsed there has been hardly any change in the payment made to the medical officers of these societies. On the other hand, the members expect much better attendance and this from qualified practitioners, whereas formerly they were content with an unqualified assistant. But this is the case all over the kingdom. The difference is that in most parts of the country 4*s*. or 4*s*. 4*d*. is considered the minimum payment per member per annum which can be given to a club medical officer. There are some places, however, where only 3*s*. or 2*s*. 6*d*. are paid and this is considered a great evil. But what can be said of Macclesfield where the medical officer of the General Burial Society receives only 10*d*. per year from each person whom he is bound to attend in case of sickness! The medical officer received last year £254 13*s*. 7*d*., or 61,123 pennies, and there were 6115 members, and this, it will be seen, amounts to 10*d*. per member. In face of these figures the medical practitioners at Macclesfield raised the question whether it was not "infamous in the professional sense" for a medical practitioner to contract to attend professionally on members of a club whenever called if the remuneration given were only equal for each person to about three-quarters of a farthing per week. Are not such terms an insult to the profession! Nevertheless when one of these burial societies recently advertised for a medical officer it received 33 applications. The efforts made by the local practitioners to prevent the importation from the outside of medical officers willing to receive only 10*d*. a year were related in these columns. Perhaps the explanation of the possibility of one single practitioner having about 6000 club members on his list is to be found in the fact that many of them only consult him for trivial ailments. "Only a club doctor" is a phrase that has entered into the common parlance of the population of Macclesfield; and when something serious is the matter they endeavour to consult a practitioner who is not a club medical officer. The fact that on these occasions they manage to pay the usual fees proves the great amount of abuse that arises in club contract practice.

THE CHICAGO STOCKYARDS: THE UNITED STATES GOVERNMENT AND THE LANCET.

Early this year Mr. UPTON SINCLAIR brought out his book, "The Jungle." In the attractive form of a novel this work repeated the indictment of the Chicago stockyards made by our Special Sanitary Commissioner a year previously. The fact that President ROOSEVELT was deeply impressed by "The Jungle" and caused investigations to be made added greatly to the success of Mr. SINCLAIR'S novel. From the sanitary point of view, however, it would be a mistake to imagine that nothing was done until after the issue of this work of fiction. THE LANCET reports were republished in Chicago shortly after their appearance in England. They occasioned much controversy and finally led to a radical reform in the method of inspection of meat by the local authority. This reform came into operation on

August 7th, 1905, and during the course of the present year we reproduced the figures given by the Chicago Department of Health. This official document states that at the union stockyards an aggregate of upwards of 3,955,000 pounds of food unfit for human consumption and having a retail value of $337,000 was condemned to be destroyed. Of this amount 3,487,000 pounds, or 85·5 per cent. of the total, was destroyed during the last five months of the year. This shows the much greater efficacy of the system of inspection which THE LANCET revelations caused to be applied, and all this occurred before the publication of "The Jungle." But the publication of this book greatly stimulated the desire for reform and the sensation created now travelled over the Atlantic and began to stir up the authorities in England and on the continent. On all sides intense dread arose lest some of the Chicago horrors might be repeated nearer home. This is not an unfounded apprehension. Though there are no abominations on the wholesale scale represented by the Chicago stockyards, the proceedings in various English law courts showed that on a smaller scale there were many foul practices in this country which endanger the purity of our food-supply. It must be borne in mind also that the severer methods of inspection mentioned above only relate to the meat which is to be sold to the inhabitants of Chicago. That which is exported to other parts of the States or to Great Britain and other countries is in no wise controlled or inspected by the Chicago Department of Health. This depends, not on the local authority, but on the watch kept by the inspectors appointed by the Federal Government of the United States; and Mr. SINCLAIR showed that, counting 300 working days per year, the total 411 United States Government inspectors would have to inspect 105 animals per hour, or nearly two per minute. It is on such a guarantee as this that for many years the British public has been consuming Chicago meat. No wonder if in these circumstances and when the facts became known there was a great falling off in the importations from Chicago. The American Government sought to remedy the situation by making official inquiries and introducing some legislative measures to increase the efficacy of inspection. There was the inquiry made especially on behalf of President ROOSEVELT by Mr. NEILL and Mr. REYNOLD. From their report we quoted some passages which not only confirmed but were worded much in the same manner as the reports of our Special Sanitary Commissioner. Then the United States Department of Agriculture appointed a technical commission to proceed to Chicago and to make a counter investigation to that of our Commissioner. Their report, when published, consisted of 29 quotations from THE LANCET and 11 from "The Jungle," and answers or criticisms of these quotations. All this we republished, adding thereunto observations made by our own Commissioner in reply to the criticisms of the United States Government Commissioners. The document, as will be seen on its perusal, most fully vindicates the accuracy of our Special Sanitary Commissioner's severe denunciation of the insanitary condition of the Chicago stockyards. As the case thus made out against the stockyards could not be refuted something had to be done. A Bill, therefore, was passed by the American Legislature purporting to improve the Federal methods of inspection, while at Chicago itself more soap and water were used, some of the attendants were made to wear, at their own expense, cleaner clothes, and some money has been spent in paving and in painting. All this is very superficial and nothing short of demolition of the present unsuitable buildings and the construction of proper slaughter houses in the technical sense of the word will ever render it safe to consume meat coming from the Chicago stockyards. This has not prevented the interested parties from distributing broadcast a flood of literature having for its object to persuade the public that whatever evils may have existed have now been all reformed out of existence. In this work of whitewashing no money has been spared. Also a certain number of journalists who have no technical knowledge whatsoever of the question have been led round show parts of the stockyards and made to believe that everything has now been put in order. During the course of the year we have published some articles showing the fallaciousness of such pretensions.

CONTRIBUTIONS FROM THE LANCET LABORATORY.

Several special inquiries of general interest from the point of view of public health have been the subject of practical investigation in THE LANCET Laboratory during the year. In our first number we published an article on "The Adulteration of Silk with Tin and of Flannel with Epsom Salts." This subject had already received our attention as far back as 1899, when our analyses showed that what in wearing apparel may fairly be regarded as foreign matter, such as the salts of zinc, aluminium, chromium, tin, magnesium, and iron, was frequently present in considerable quantity, and it was pointed out that many of these mineral substances, although apparently insoluble under ordinary conditions, were in most cases rendered soluble by the action of perspiration. The adulterant found in the samples of silk examined in the recent inquiry was stannic salt and the quantity present in one case was nearly 36 per cent. The highest amount of real silk present never exceeded 60 per cent. In our opinion the loading of cotton, linen, or silk serves no good purpose whatever and is simply a fraud and is quite unjustifiable. The practice certainly renders the materials liable to damage when they are washed and the presence of mineral substances generally, apart altogether from the fact that some of them are irritant mineral poisons, tends to nullify that important property of clothing—namely, keeping the body warm, protecting it from the cold, and allowing the free passage of air from within and without.

The next inquiry related to "The Wines of the Gironde with Special Reference to Claret." This report had its origin in the view held by many people that the bulk of the claret sold at the present time in this country was too cheap to be good and that the genuine product could only be obtained at relatively high prices. The report completely negatived this idea. Our special commissioner visited the wine producing districts of the Gironde and inspected the processes of wine making pursued there during the vintage. It was shown that amongst the methods of producing wines that of making claret is the simplest and most innocent. The grape juice is merely allowed to ferment and the resulting wine is decanted from time to time; that is all. A large number of analyses of various types of clarets secured by our commissioner at the various chateaux was published. At the same time specimens of claret were bought on the open market in London at prices varying from 1*s.* to 3*s.* per bottle. In every case there was no evidence at all that these wines were not genuine. The report therefore justified a statement made in THE LANCET of Oct. 8th, 1904, p 1035, that "Bordeaux wines or clarets were never cheaper, more abundant, and purer than they are at the present day." The inquiry involved over 500 analytical determinations.

The question, "What is Whisky?" received magisterial decision in the North London Police-court early in the year. It may be remembered that in this case the inference was made from analysis that the samples under suspicion consisted of patent still, silent, or neutral spirit, and it was interesting to note how the evidence of chemical analysis alone was entirely supported by the statement of a witness who was called by the defence and who supplied the spirit. He agreed that the sample was practically young patent spirit with a dash of pot-still malt spirit. The opinion of the magistrate was that such a spirit could not be considered as either Scotch or Irish whisky and a conviction was accordingly obtained. We refer to this case because we believe that it was the outcome of the revelations brought to light in the report of "THE LANCET Special Commission on Brandy," which was published in THE LANCET of Nov. 29th, 1902, p. 1503.

On several occasions during the year we have drawn attention to the filthy and still uninterrupted traffic that goes on in working up dirty rags without any attempt to cleanse or to disinfect them for the purpose of stuffing bed mattresses. It is to be hoped that an end will soon be put to this scandalous business.

In THE LANCET of March 24th, 1906, p. 852, an article appeared from the Laboratory on "The Manufacture and Supply of Electrolytic Disinfectant by the Public Health Authority." The success of the electrolytic plant at Poplar which was the subject of the article suggests the adoption of this method for the production of a public supply of a disinfectant and deodorant wherever an electric current is available. The salt solution electrolysed contains common salt and magnesic chloride. By the addition of a small quantity of caustic soda the activity of the solution as regards its chlorine is preserved practically indefinitely. A number of analyses of the fluid supports this statement.

In an annotation published in THE LANCET of May 12th, 1906, it was shown that genuine old brandy has a very distinct dissolving action on copper. It was noticed that old brandy left for some time in a silver flask had become turbid and black. It proved to contain copper in solution and some copper also in the form of insoluble tannate of copper. The brandy had evidently acted on the copper in the silver alloy.

The result of an analysis of the threepenny postage stamp was published in an annotation in THE LANCET of June 2nd, 1906, p. 1551. The yellow colouring of the stamp proved to be due to chromate of lead and the amount present was found to be 2·53 per cent. Since chromate of lead has powerful poisonous effects we suggested that some innocuous yellow colouring might be substituted.

Once more we have had occasion to submit to analysis a sample of the water from the Holy Well of Zem Zem, sent to us this time by Dr. FRANK G. CLEMOW of Constantinople and British Delegate to the Ottoman Board of Health. The water again presented on chemical analysis abundant evidences of impurities and was found to contain phosphates and nitrogenous matters both in the oxidised and unoxidised state. These results are scarcely surprising in view of the fact that no precautions are taken to prevent the infiltrations of countless carcasses that accumulate from the annual great sacrifices of beasts gaining access to the well. Besides, it is part of the ritual that in addition to drinking the water the pilgrim has the fluid poured over him and this water trickles away from his person back to the well and he is doubly grateful when he discovers on retiring that the cloth round his loins is wet.

In THE LANCET of Oct. 13th, 1906, p. 1009, we called attention to a "diabetic bread" which was being introduced into this country and which, according to our analysis, contained not less than 50 per cent. of starch. We warned practitioners it would be well not to prescribe a so-called diabetic food unless a precise statement as to its composition was forthcoming.

In THE LANCET of Nov. 24th, 1906, p. 1456, we alluded in an annotation on "Port, Meat, and Malt" to a common fallacy of a large section of the public that the restorative properties of port wine are immensely increased by the addition to it of extracts of meat and malt. The idea is cherished, that to begin with, port "makes blood," that the meat is food, and finally, that the malt aids the digestion of the whole. In all we examined seven preparations of meat and malt wine and not one of them contained more than 0·1 per cent. of nitrogen. The fact is that it is not possible to dissolve meat proteids in strong wine. Further, these wines show no digestive action, and lastly, there is every reason for believing that a very inferior port wine is used for the purpose.

The number of samples of foods, drugs, and other articles examined in THE LANCET Laboratory during the year and reported upon in our analytical columns was 101, and the number of analyses involved was 310. The number of analyses made in special inquiries was 610, bringing the total up to 920, a figure which is considerably higher than that recorded last year and which is due to the wider scope of the special inquiries undertaken this year.

THE BENEVOLENT AGENCIES OF THE PROFESSION.

We give below a list of the benevolent agencies of the profession so far as we have been able to obtain particulars:—

Army Medical Officers' Society: secretary, Dr. THOMAS LIGERTWOOD, 16, St. Leonard's-terrace, Chelsea, London, S.W. Birmingham Medical Benevolent Society: honorary secretary, Mr. W. F. HASLAM, 54, Newhall-street, Birmingham. British Medical Benevolent Fund: honorary secretary, Mr. W. E. SARGANT, St. Bartholomew's Hospital, London, E.C. Devon and Exeter Benevolent Medical Society: President, Dr. E. B. THOMSON, Norbiton House, Albany-place, Plymouth. Epsom College Royal Medical Foundation: secretary, Mr. J. B. LAMB, 37, Soho-square, London, W. Essex and Herts Benevolent Medical Society: honorary secretary, Mr. VERNON AUSTIN, Hertford. Kent Benevolent Medical Society: honorary secretaries, East District, Mr. H. G. SADLER, Canterbury; Middle District, Dr. C. E. HOAR, Maidstone; West District, Mr. H. C. BURTON, Lee, S.E. THE LANCET Relief Fund: secretary, Mr. C. GOOD, THE LANCET Office, Strand, London, W.C. Lincolnshire Medical Benevolent Society: honorary secretary, Dr. W. A. CARLINE, Lincoln. Royal Medical Benevolent Fund Society of Ireland: acting secretary, Dr. A. H. BENSON, 42, Fitzwilliam-square, Dublin. Society for the Relief of Widows and Orphans of Medical Men: secretary, Mr. E. J. BLACKETT, 11, Chandos-street, Cavendish-square, London, W. Surrey Medical Benevolent Society: honorary secretary, Dr. JOHN WALTERS, Reigate. Sussex Medical Benevolent Society: honorary secretary, Dr. L. A. PARRY, 61, Church-road, West Brighton. West Riding of Yorkshire Medical Charitable Society: secretaries, Mr. O. G. WHEELHOUSE, Filey, and Mr. G. H. ROWE, Leeds. All these societies have done admirable work during the year with very little support, and we shall shortly take occasion to refer to the apathetic attitude of the medical profession in this respect.

No reference has been made to the Medical, Sickness and Accident Society, which carries on a most useful work and has accumulated funds amounting to £200,000, or to the medical defence societies, since these do not strictly come under the heading of benevolent agencies but may be looked upon as insurance companies from which specific benefits can be secured.

THE LANCET *Relief Fund.*

THE LANCET Relief Fund has been included in order that the list of benevolent agencies may be complete; but, as our readers will recollect, this fund is provided year by year in the month of January to the amount of at least £300 by the proprietors of THE LANCET for the purpose of affording immediate pecuniary assistance to medical men or their widows and orphans in cases of distress and emergency. The assistance is given by means of loans free of interest or in actual gifts, according to the circumstances of the various cases.

HONOURS TO MEDICAL MEN.

The civilised world has now reached a stage of progress when the measure of a man's worth is too often gauged by what our American cousins have termed "hustle," a word which more often than not tersely summarises the old adage "Much cry and little wool." Unfortunately, from the point of view of worldly honours, though fortunately in a better sense, true scientific work does not lend itself to specious methods but, on the contrary, requires slow, patient, laborious investigations the good results of which are frequently not seen until the original investigators have passed from the sphere of their work. Science in fact uses the methods of nature herself to whom time is of no consequence but only the end which she is seeking to attain. In this direction, we believe, lies the explanation of the fact that the public rewards which fall to the lot of the medical profession are year by year so few in number. To the medical profession and to the scientific world in general the reward must ever be in "the doing."

New Year Honours.

Probably owing to the fact that the King's Birthday is celebrated twice a year—in London on June 24th and at foreign stations on Nov. 9th—no list of New Year honours has been issued since the death of Queen Victoria. This year, however, a small list was issued at the beginning of January which included the names of Sir B. Walter Foster, M.P.; Surgeon-General Richard Browne, I.M.S.; and Lieutenant Colonel Robert Shore, I.M.S. Sir Walter Foster, who was given the well-merited dignity of a Privy Councillor, is a distinguished member of our profession, although the honour was no doubt awarded almost wholly for political work. From 1892 to 1895 Sir Walter Foster acted as Parliamentary Secretary to the Local Government Board, having as Member of Parliament for the Ilkeston division of Derbyshire faithfully served his constituency and party. At the Local Government Board he was recognised by both sides of the House as a thoroughly able and conscientious administrator, and the medical profession, who necessarily regard the Board as the medical bureau of the country, felt safe in his hands. Sir Walter Foster was for ten years a Direct Representative of the medical profession upon the General Medical Council. Surgeon-General Browne received a Companionship of the Order of the Indian Empire and Lieutenant-Colonel Shore was awarded "the Kaisar-i-Hind Medal in India" of the first class.

The Birthday Honours.

The list issued in June included the names of Dr. Robert Farquharson, Sir Christopher J. Nixon, Professor A. R. Simpson, Professor A. E. Wright, Deputy Surgeon-General John McNeale Donnelly, C.B., I.M.S. (retired); Surgeon-General Alfred H. Keogh, C.B., Director-General of the Army Medical Service; Surgeon-General William Simson Pratt, A.M.S.; Colonel Henry Kellock McKay, C.I.E., I.M.S.; and Lieutenant-Colonel David Prain, I.M.S. Dr. Farquharson, who was made a Privy Councillor, was for many years M.P. for West Aberdeenshire, and was formerly an assistant surgeon in the Coldstream Guards and medical officer to Rugby School. As a Member of Parliament he has conscientiously represented his profession. Sir Christopher Nixon, who received a baronetcy, is the representative of the Royal University of Ireland on the General Medical Council, and has held the office of President both of the Royal College of Physicians of Ireland and of the Royal Veterinary College in that country. Professor Simpson and Professor Wright received the honour of knighthood. Sir Alexander Russell Simpson, emeritus professor of midwifery and diseases of women and children at the University of Edinburgh, was at one time dean of the Faculty of Medicine at that University. He is a honorary Fellow of the American Gynæcological Society and of the Obstetrical Societies of Berlin, Italy, Leipsic, Moscow, and Paris. Sir Almroth Edward Wright, who is now attached to St. Mary's Hospital, was from 1892 to 1902 professor of pathology at the Royal Army Medical School, Netley. His brilliant pathological work in connexion with antityphoid inoculation and the discovery of the opsonins is well known to all readers of The Lancet and has obtained for him the Fellowship of the Royal Society. Deputy Surgeon-General Donnelly and Surgeon-General Keogh, Director-General of the Army Medical Service, were promoted to be Knights Commanders of the Order of the Bath. Surgeon-General Pratt was made a Companion of the Bath, as was also Colonel McKay. Lieutenant-Colonel Prain, director of the Botanical Survey of India, superintendent of the Royal Botanical Gardens, and Government Quinologist, Calcutta, received a Companionship of the Order of the Indian Empire.

In the November list were the names of Mr. John Tweedy, Professor J. W. Byers, Professor Rubert William Boyce, and Dr. C. F. Hutchinson. Mr. Thomas J. Stafford, Mr. Sydney Wilson Thompstone, Mr. Wilfred Thomason Grenfell, Sir Alfred Fripp, C.B., C.V.O., and Mr. William Maurice Abbot Anderson. Sir John Tweedy, who is the immediate ex-President of the Royal College of Surgeons of England, is emeritus professor of ophthalmological medicine and surgery at University College, London, and consulting ophthalmic surgeon to University College Hospital and the Royal London Ophthalmic Hospital (Moorfields). He has written much on ophthalmological subjects and on medical history and medical education, in illustration of which themes he is able to draw upon an unusual familiarity with the classics. Sir John Tweedy's vigorous presentment in our columns of the case for the Members of the Royal College of Surgeons of England has influenced opinion in the College very much. Sir John Byers, professor of midwifery and diseases of women in Queen's College, Belfast, has a widespread reputation for skill and learning in his art. He was honorary president of the International Congress of Obstetrics and Gynæcology held at Geneva in 1896 and president of the Obstetric and Gynæcological Section of the British Medical Association in 1901. Sir John Byers's work in Belfast has not been limited to specialised medicine; he has been an advocate of all progressive measures in public health and, as befits the son of the founder of Victoria College, a vigorous champion of the cause of education. Sir Rubert Boyce is the Holt professor of pathology in the University of Liverpool, bacteriological analyst to the city of Liverpool, and Dean of the Liverpool School of Tropical Medicine. He is a Fellow of the Royal Society. His honour was a well-deserved recognition of untiring industry and sound work, especially in connexion with the Liverpool School of Tropical Medicine which by his efforts and those of an extremely capable staff of colleagues has achieved admirable results in the short space of seven years since its foundation. Sir Charles Hutchinson, a justice of the peace for East Sussex, was late Member of Parliament for the Rye division of the county. Mr. Thomas J. Stafford, medical commissioner on the Local Government Board of Ireland, was made a Companion of the Bath. Mr. Sydney Wilson Thompstone, principal medical officer of Northern Nigeria, West Africa, and Mr. Wilfred Thomason Grenfell, superintendent of the Royal National Mission to Deep Sea Fishermen, were made Companions of St. Michael and St. George. Sir Alfred Fripp, surgeon-in-ordinary to the King, was promoted to a Knight Commandership of the Royal Victorian Order, and Mr. William Maurice Abbot Anderson, surgeon to H.R.H. the Duchess of Fife and household, was made a Member of the Fourth Class of the same Order.

Royal Victorian Order.

In addition to those mentioned in the Birthday lists the following Royal Victorian Order honours have been conferred:—Lieutenant-Colonel Havelock H. R. Charles, I.M.S. (Bengal), surgeon of the staff of the Prince of Wales during the visit of their Royal Highnesses the Prince and Princess of Wales to India, has been made a Knight Commander; Fleet Surgeon Robert Hill, R.N., of H.M.S. *Renown*, and Dr. C. Theodore Williams were made Members of the Fourth Class; and Dr. P. Horton-Smith-Hartley was made a Member of the Fifth Class. The two last-mentioned gentlemen received their honours in connexion with the opening of the King Edward VII. Sanatorium at Midhurst.

Foreign Orders.

Dr. R. Murray Leslie, senior physician to the Tottenham Hospital and physician and pathologist to the Royal Hospital for Diseases of the Chest, has, on the recommendation of M. Cambon, the French Ambassador, received the Order of Officier d'Académie Française.

Mr. Reginald Harrison has received the Insignia of the First Class of the Imperial Ottoman Order of the Medjidieh, and Dr. Reginald Gower Kirton, principal medical officer of the Egyptian Prisons Administration, and Mr. Kenneth Scott the Insignia of the Fourth Class of the Imperial Ottoman Order of the Osmanieh. Major John H. Rivers, R.A.M.C., and Captain Hamilton G. F. Stallard, R.A.M.C., have also received the Imperial Ottoman Order of the Osmanieh Fourth Class. Mr. William St. Clair Symmers, formerly professor of pathology in the Egyptian School of Medicine, has received the Imperial Ottoman Orders of the Medjidieh of the Third Class and of the Osmanieh of the Fourth Class, and Dr. Harold Nolan, medico-legal expert to the Egyptian native tribunals, the Imperial Ottoman Order of the Medjidieh of the Third Class.

During the past 12 months Kaiser Wilhelm conferred the Star of the Crown of Prussia upon Dr. von Mühlig on the occasion of the fiftieth anniversary of his appointment as physician to the German Hospital in the Turkish metropolis and Professor von Bergmann received from the Sultan of Turkey the Grand Cordon of the Osmanieh in brilliants; Dr. Bier, his assistant, received the Grand Cordon of the Medjidieh.

A Prussian Medical Peer.

Professor von Bergmann, who during the year received a peerage, is the *only* Prussian medical peer of Royal creation.

We congratulate, in the name of the medical profession, all these recipients of well-merited honours.

OBITUARY.

The mortality in the ranks of the medical profession this year has been widespread and a feature to be noted is the number of men, mostly in the foremost rank, who have died before reaching their fiftieth year. In accordance with our usual custom we have classified the names of our deceased fellows according to the various spheres of work which occupied their lives. This year, however, we have but few deaths in the Royal Navy Medical Service to record.

Royal Navy Medical Service.

Joseph May, M.R.C.S. Eng., L.S.A., who died on Sept. 25th in his sixty-ninth year, was educated at Guy's Hospital and qualified in 1859. He served for a few years as assistant surgeon in the Royal Navy, but leaving the service was appointed medical officer of health of Devonport in 1874, which post he held until 1895. He was then appointed consulting medical officer to the Devonport sanitary authority. Robert Grieve, C.M.G., M.D. Glasg., L.R.C.S. Edin., who died during the month of November, was educated at the University of Glasgow. Graduating M.D. there in 1861 he served for some time as assistant surgeon in the Royal Navy, on the China station. Later he served with an ambulance through the Franco-Prussian war. During the small-pox epidemic of 1870–71 in London he did good work, and from 1875 to 1894 he held various posts in the Colonial medical service in British Guiana.

Army and Indian Medical Services.

Sir Joseph Ewart, M.D. St. And., F.R.C.P. Lond., M.R.C.S. Eng., who died on Jan. 10th, was born in 1831. In 1853 he graduated M.D. of the University of St. Andrews and entered the service of the Honourable East India Company. In 1859 he was elected to a professorship of medicine in the University of Calcutta. He returned to England in 1875, settled in Brighton, and in 1881 was elected a Fellow of the Royal College of Physicians of London. In 1895 he was knighted and among other appointments he was Mayor of Brighton and a Justice of the Peace for the counties of Sussex and Cumberland and for the borough of Brighton. Thomas Edmonston Charles, M.D., LL.D. Edin., F.R.C.P. Lond., was born in 1824. He graduated at Edinburgh University as M.D. in 1855 and in the following year proceeded to India as a member of the Bengal Medical Service. He served through the Mutiny, including the Siege of Delhi. In 1859 he was appointed professor of midwifery at the Bengal Medical College, a post he resigned in 1880 when he returned to Europe. For some years he practised both in Cannes and in Rome, but in 1902 he went to reside in Cornwall. He died at Flushing, near Falmouth, on March 2nd. He was the founder of the Eden Hospital in Calcutta. Henry Alexander Gogarty, M.D. Dub., L.R.C.S. Irel., who died on April 18th, was born in 1834 and educated in Dublin. He graduated as M.D. in the University of Dublin in 1878, having taken the degree of M.B. in 1857. He entered the medical department of the army in 1855 and served in India through the Mutiny. Later he served with the 52nd Light Infantry and with the *Rifle Brigade*, retiring from the latter regiment in 1877 with the rank of surgeon-major. He afterwards practised in Canterbury, being an honorary physician to the Kent and Canterbury Hospital. Forbes Manson Grantt Tulloch, M.R.C.S. Eng., L.R.C.P. Lond., who died at an early age from sleeping sickness, was educated at St. Mary's Hospital and qualified in 1901. Soon afterwards he entered the Royal Army Medical Service and was sent to Uganda to work at the subject of sleeping sickness. He, however, contracted the disease with fatal results to himself, but not before he had had time to do some excellent work upon the disease in question. Whitley Bland Stokes, M.D. Dub., F.R.C.S. Irel., F.R.C.S. Eng., M.R.C.P. Lond., who died in October at the early age of 42 years, was educated at Trinity College, Dublin, and at St. George's Hospital. He qualified in 1883 and entered the Army Medical Department. Soon after his arrival in India he contracted typhoid fever and dysentery and therefore retired from the service. On his health becoming re-established he settled in South Kensington where he rapidly built up a large general practice. He was a very able man, of a most cheery and genial nature, and his early death deprived his friends of a charming personality and the medical profession of a sound practitioner. Alexander Crombie, C.B., M.D. Edin., L.R.C.S. Edin., L.S.A., who died on Sept. 29th, was born in 1845 and was educated at Edinburgh University, graduating M.D. in 1870. He entered the Army Medical Service in April, 1871, but resigned his commission to enter the Indian Medical Service, which he did in December of the same year. He served in India from 1872 until 1893, having held many important posts, the last of which was that of surgeon superintendent of the Presidency Hospital in Calcutta. Returning home he practised in London as a consulting physician, being a member of the medical board at the India

Office. He was a most painstaking and able physician and contributed valuable treatises to medical literature upon sundry tropical diseases. Sampson Roche, M.R.C.S. Eng., L.R.C.S. Irel., who was born in 1829, was educated at Trinity College, Dublin, and qualified in 1854. That same year he entered the Army Medical Department and went out to the Crimea. Here he did good work, being mentioned in despatches for a particularly plucky act. His next field of service was India during the Mutiny. Most of his service was with the 55th Regiment, and he left the army with the rank of Deputy Surgeon-General in 1881. After his retirement he was appointed medical officer of health of Cheltenham, which post he held until 1892, when he retired to his family home in Ireland.

Hospital Physicians and Surgeons.

James Henry Ceely, F.R.C.S. Eng., L.S.A., died on Dec. 25th, 1905, at the advanced age of 96 years. He studied medicine at the London Hospital and became L.S.A. in 1830. In 1852 he was elected a Fellow of the Royal College of Surgeons of England. He settled in Aylesbury and was surgeon to the hospital there from 1832 to 1882. Francis Fox, M.R.C.S. Eng., L.S.A., who died on Jan. 19th in his ninety-third year, was educated at Birmingham and in London. He qualified in 1838 and settled in Plymouth. He was for many years on the staff of the South Devon and East Cornwall Hospital and during the cholera epidemic of 1849 was in charge of the cholera hospital. He was one of the first surgeons in the West of England to perform ovariotomy successfully. Joseph Frain, M.D. St. And., L.R.C.P. Edin., M.R.C.S. Eng., L.S.A., who died in February, aged 84 years, received his medical education at Newcastle-upon-Tyne, Edinburgh, and London. He qualified in 1845 and settled in practice at South Shields. For many years he was one of the surgeons to the Ingham Infirmary, South Shields. William Hugh Hughes, M.R.C.S. Eng, L.S.A., J.P., who died in February, qualified in 1861. He studied at the Manchester School of Medicine and was for many years medical officer of health of Ashton-under-Lyne. He was also surgeon to the Ashton-under-Lyne District Infirmary and Children's Hospital. He was also a magistrate for the borough of Ashton and county of Lancashire. Francis John Crane Parsons, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., who died on Feb. 10th, in his fifty-ninth year, was educated at King's College, London, and qualified in 1870. He was for many years surgeon to the Bridgewater Infirmary and it was owing to his efforts that the fees payable by in-patients were abolished. He was also medical officer of health for the urban, rural, and port sanitary districts of Bridgewater and on the commission of the peace for Bridgewater. Henry Matthews Tuckwell, M.A., M.D. Oxon., F.R.C.P. Lond., who died at Oxford in March, was educated at Bromsgrove School, Lincoln College, and St. Bartholomew's Hospital. He qualified in 1856 and the same year was elected Radcliffe Travelling Fellow. In 1866 he was appointed physician to the Radcliffe Infirmary, a post which he held for 20 years. John Michael Harding Martin, M.D. Brussels, Victoria, and Liverpool, F.R.C.S. Eng., who died suddenly from cerebral hæmorrhage on March 20th, was born in 1847 and educated at the University of Edinburgh and University College, Liverpool. He qualified in 1874. He was a Justice of the Peace for the county borough of Blackburn and honorary consulting surgeon to the Blackburn and East Lancashire Infirmary. Lionel Smith Beale, M.B. Lond., F.R.C.P. Lond., F.R.S., who died in March from cerebral hæmorrhage, was born in 1828. He received his medical education at King's College Hospital and while yet a student in 1849 carried out an inquiry on behalf of the Government into a cholera epidemic at Windsor. In 1851 he graduated M.B. of the University of London. He was a well-known and successful consulting physician, being on the staff of King's College Hospital for many years, but the work in which he took most interest was microscopy and biology. William Robert Henry Stewart, F.R.C.S. Edin., M.R.C.S. Eng., L.S.A., who died on March 7th, was educated at University College Hospital and qualified in 1874. He was one of the pioneers of laryngology in this country and was for many years surgeon to the Throat Hospital, Golden-square, and surgeon to the throat and ear department at the Great Northern Hospital. He was in his fifty-fourth year. George Buchanan, M.D., LL.D. St. And., F.F.P.S. Glasg., who died on April 19th, was for many years professor of clinical surgery in the University of Glasgow. He was also surgeon to the Glasgow Royal Infirmary and to the Western Infirmary. In his early days he served as surgeon in the Crimea during the war. John Henry Bryant, M.D. Lond., F.R.C.P. Lond., who died at the end of May, aged 39 years, received his medical education at Guy's Hospital. He qualified in 1890 and eight years later was appointed assistant physician to the hospital. He wrote valuable papers upon medical subjects, one of the most important being the article on Diseases of the Abdominal Blood Vessels in Allchin's "System of Medicine." Sir Willoughby Francis Wade, M.D. Dub., F.R.C.P. Lond., who died near Fiesole on May 28th, was educated at Rugby and Trinity College, Dublin. He qualified in 1851 and nine years later was appointed physician to the Queen's Hospital, Birmingham. In 1865 he was appointed physician to the General Hospital, a post which he held until 1892 when he retired. He was knighted in 1896 for professional skill and for his work in furthering the interests of medical men, especially as President of the British Medical Association during the Birmingham meeting of 1890. Edward Long Jacob, M.R.C.S. Eng., L.S.A., who died at Reigate on May 25th, was educated at Sheffield, Queen's College, Birmingham, and at St. Bartholomew's Hospital. He qualified in 1855 and was for some years surgeon to the Birkenhead Hospital. His chief work, however, was that of medical officer of health for the greater part of the county of Surrey, to which he was appointed in 1873, but with advancing years he gave up the greater part of his district, and at the time of his death retained only that of Reigate. He was in his seventy-second year. John Henry Bridges, M.B. Oxon., F.R.C.P. Lond., who died on June 15th, was born in 1832, educated at Rugby and Wadham College and at St. George's Hospital, and graduated M.B. of the University of Oxford in 1859. From 1861 to 1869 he was physician to the Bradford Infirmary. In the latter year he accepted an appointment on the then Poor-law Board. For 25 years he served as medical inspector for Poor-law purposes in the metropolis. Outside his official work he did excellent literary work, and in 1897 edited the Opus Majus of Bacon. He was a Fellow of Oriel College. Charles Henry Taylor, M.B. Lond., L.R.C.P. Lond., M.R.C S. Eng., L.S.A., who died on June 15th, was born in 1860. He received his medical education at King's College Hospital and graduated M.B. of the University of London in 1885. After holding various resident posts in London he went to Derby as senior house surgeon to the Royal Infirmary in 1889, and some eight years later was elected to the senior staff, of which at the time of his death he was the senior member. The cause of death was heart failure after influenza. John Winter Dryland, M.R.C.S. Eng., L.S.A., J.P., who died on June 24th, received his medical education at Guy's Hospital. Born in 1833, he qualified in 1855 and settled in Kettering. He was medical officer to the Kettering Union and also a member of the staff of the General Hospital. He was besides a J.P. for the county of Northampton. Charles Angus, M.B., C.M. Aberd., who died on July 21st, was educated at the University of Aberdeen and graduated M.B., C.M. in 1887. After serving as junior and senior residen medical assistant at the Aberdeen Royal Asylum he was, in 1900, appointed medical superintendent of the Aberdeen Royal Infirmary. He was specially interested in asylum management and construction and in pursuit of knowledge on these points visited various asylums on the continent. John Blackburn, M.R.C.S. Eng., L.S.A., who died on July 7th, studied at the Sheffield Medical College and in London. He qualified in 1859 and the same year settled in Barnsley, where he was for many years on the staff of the Beckett Hospital. He was besides a town councillor and an alderman. Eldred Noble Smith, F.R.C.S. Edin., M.R.C.S. Eng., L.R.C.P. Lond., who died on July 20th at the age of 59 years, was educated at St. Mary's Hospital and qualified in 1868. For some time he was in general practice but finally settled down as a specialist in orthopædic surgery and was for many years on the staff of the City Orthopædic Hospital. He was an excellent draughtsman and executed all the illustrations for Klein's "Atlas of Histology." Oscar Thomas Woods, M.D., T.C.D., L.R.C.S. Irel., who died on August 2nd, was educated at Trinity College, Dublin, and was for the whole of his professional life connected with asylum work. At the time of his death he was medical superintendent of the Cork District Asylum. William James Martin, M.D. St. And., F.R.C.P. Edin., who died on August 4th, was a well-known Dublin physician who was for some years physician to the Jervis-street Hospital. John Cameron, M.D. Glasg., F.R.C.P. Lond., who died on August 20th, aged 88 years, qualified as M.R.C.S. Edin. in 1839. He settled in Liverpool and was for many years physician to the Royal Southern Hospital in that city. John Henry Bell, M.D. St. And., M.R.C.S. Eng., who died suddenly on Sept. 9th, was educated at the Leeds School of Medicine and qualified in 1857. He commenced practice in Bradford and was elected on the staff of the Bradford Ear and Eye Hospital which was founded the same year. In 1865 he was elected on the staff of the Bradford Royal Infirmary, of which institution he was at the time of his death a consulting medical officer. He is well known throughout the medical profession for his studies in anthrax which he commenced in the year 1877. Thomas Harris, M.D. Lond., F.R.C.P. Lond., who died on Sept. 8th, graduated as M.B. of the University of London in 1882, having previously studied medicine in Wurzburg and Manchester. He was one of the physicians to the Manchester Royal Infirmary, having commenced his connexion with that institution as pathologist. David Henry Goodsall, who died on Sept. 14th, was born in 1843 and entered as a student at St. Bartholomew's Hospital in 1865, having previously been apprenticed to a druggist. He qualified in 1868 and in 1872 was made a surgeon to the Metropolitan Hospital, where at the time of his death he was senior surgeon. He was well known for his work in rectal surgery. James Finlayson, M.D., LL.D. Glasg., F.F.P.S. Glasg., who died on Oct. 9th, was born in 1840 and graduated M.B. at the University of Glasgow in 1867. During his whole professional life he was a hospital physician, first at the Royal Infirmary and afterwards at the Western Infirmary and the Hospital for Sick Children. William Spencer Watson, F.R.C.S. Eng., M.B. Lond., who died on Sept. 17th, aged 70 years, was educated at King's College and Hospital, and qualified in 1857. He was for many years surgeon to the throat department at the Great Northern Hospital, and also surgeon to the Central London Ophthalmic Hospital and to the Royal Eye Hospital. Henry Walter Syers, M.D. Cantab., M.R.C.P. Lond., who died from septic infection on Oct. 10th, was born in 1852. He studied medicine at Birmingham and at the Westminster Hospital, graduating M.D. of the University of Cambridge in 1883. In 1883 he was elected a physician to the Great Northern Hospital. Frederick Hurst Craddock, M.R.C.S. Eng., L.S.A., who died on Oct. 14th, was educated at Oxford and at St. Bartholomew's Hospital. He qualified in 1877 and took up the study of mental diseases. At the time of his death he was the medical superintendent of the Gloucestershire County Asylum. Spencer Thomas Smith, M.D. Aberd., F.R.C.S. Eng., L.R.C.P. Lond., L.S.A., who died on Oct. 26th, was educated at the Middlesex Hospital and qualified in 1842. For 18 years he was senior surgeon of the Great Yarmouth Hospital. Robert Hamilton Bell, M.A., M.B., B.C. Cantab., M.R.C.P. Lond., F.R.C.S. Eng., who died on Oct. 29th, was born in 1871 and educated at Trinity College, Cambridge, and St. Thomas's Hospital. He graduated M.B., B.C., in 1893 and in 1901 was appointed surgeon to out-patients at the Samaritan Hospital. He was also obstetric tutor to St. Thomas's Hospital, obstetric physician for out-patients at the Great Northern Hospital, and assistant physician to the British Lying-in Hospital. John Archibald Campbell, M.D. Glasg., F.R.S. Edin., who died during the month of November in the 69th year of his age, graduated at the University of Glasgow in 1865. He was soon appointed to a post at the Durham County Asylum. He eventually in 1873 succeeded Dr. T. Clouston as medical superintendent of the Cumberland and Westmorland Asylum. Gustave Isidore Schorstein, M.A., M.D. Oxon., F.R.C.P. Lond., who died on Nov. 16th, aged 43 years, was educated at the City of London School, the University of Oxford, and the London Hospital. He graduated M.B. in 1889 and was appointed assistant physician to the London Hospital in 1894, being at the time of his death also physician to the Hospital for Consumption and Diseases of the Chest, Brompton. Edmund Symes-Thompson, M.D. Lond., F.R.C.P. Lond., who died in the month of November, aged 69 years, was educated at St. Paul's School and at King's College Hospital. He graduated M.B. of the University of London in 1859 and four years later was elected assistant physician to the Hospital for Consumption and Diseases of the Chest, Brompton. In 1867 he was made Gresham professor of medicine. John Greig McDowall, M.D. Edin., who died in the month of November, graduated in medicine at the University of Edinburgh in 1873 and devoted himself to asylum work. In 1887 he obtained the post of medical superintendent of the West Riding Asylum at Menston and there he worked until the day of his death. George Bagot Ferguson, M.D., M.Ch. Oxon., F.R.C.S. Eng., who died suddenly at the Cheltenham Hospital on Nov. 27th from syncope whilst performing an operation, was 63 years of age and was educated at Cheltenham College, the University of Oxford, and St. Bartholomew's Hospital. After holding the appointment of house surgeon at that institution he commenced practice at Cheltenham and was appointed to the honorary staff of the Cheltenham General Hospital, being senior surgeon at the time of his death. He was also surgeon to Cheltenham College and to the Female Training College. John Ackery, M.R.C.S. Eng., L.D.S., who died suddenly on Dec. 10th, received his professional training at the Middlesex Hospital and at the Dental Hospital, London. He obtained his L.D.S. diploma in 1878, and was shortly after elected dental surgeon to St. Bartholomew's Hospital. He was much interested in his particular branch of the profession, and in the year 1900 was President of the Odontological Society of Great Britain. James Gray, M.A., M.B., C.M. Edin., F.R.C.S. Edin., who was found dead in his bed on Dec. 7th, was only 34 years of age. He was educated at the Universities of St. Andrews and Edinburgh and qualified in 1895. He was assistant surgeon to the Dundee Infirmary and also assistant to the professor of surgery at Dundee College.

Other Practitioners.

Robert John Callender, L.R.C.P. Edin., M.R.C.S. Eng., who died on Dec. 25th, 1905, aged 74 years, was educated at Newcastle-on-Tyne and qualified in 1852. He was for many years a well-known practitioner in Haydon Bridge. WILLIAM CLEMENT DANIEL, M.D. Heidel., M.R.C.S. Eng., L.S.A., who died on Dec. 30th, 1905, graduated M.D. of the University of Heidelberg after a brilliant career in 1861. He then entered Guy's Hospital and eventually settled at Epsom, where in addition to a large general practice he conducted a private asylum. JOHN ABERNETHY KINGDON, F.R.C.S. Eng., who died on Jan. 5th, was a surgeon worthy of the great name which he bore. Born in 1828 and educated at St. Bartholomew's Hospital he passed his life in the service of institutions connected with the City. He was consulting surgeon to the Bank of England and surgeon to the City of London Truss Society for 30 years. JOHN LLEWELLYN TREHARNE, M.R.C.S. Eng., L.S.A., J.P., who died on Jan. 10th, studied medicine at Guy's Hospital and qualified in 1874. He practised in Cardiff and was much interested in politics, being a prominent Conservative. He was one of the borough magistrates of Cardiff. HARRY CAMPBELL POPE, F.R.C.S. Eng., M.D. Lond., who died on Jan. 2nd, aged 56 years, was educated at Liverpool and at University College Hospital. He eventually settled at Shepherd's Bush and was closely connected from its foundation with the West London Medico-Chirurgical Society. WILLIAM WINGATE WINGATE-SAUL, M.D. Heidel., M.R.C.S. Eng., L.S.A., who died on Jan. 22nd, studied medicine at St. Bartholomew's Hospital and at the University of Heidelberg. In 1870 he settled in Lancaster. He served many offices, both medical and other, and outside his professional work took great delight in music, especially in violin playing. He was the founder of the Lancaster branch of the St. John Ambulance Association. HENRY PARR MALLAM, M.R.C.S. Eng., L.S.A., who died on Jan. 19th, was a well-known and highly respected practitioner in Oxford. For 40 years he was medical officer to the Oxford Workhouse and to the Poor-law school. Apart from his professional work, he was fond of hunting and rowing and a great lover of music. WILLIAM AUGUSTUS WEST, L.R.C.P., L.R.C.S. Irel., L.M., who died in Sydney on Nov. 11th, 1905, was educated in Dublin and practised for 22 years in Sydney. He was 46 years of age at the time of his death. GEORGE WELLER, M.R.C.S. Eng., L.S.A., who died on Jan. 25th, aged 65 years, began his medical education by being apprenticed to Mr. THOMAS JONES of Chesterfield. Later he entered at the London Hospital, qualifying in 1863. He was an active general practitioner in Wanstead for 23 years, but failing health compelled him to give up practice altogether in 1900. ALEXANDER HENRY ATTWATER, M.R.C.S. Eng., who died on Feb. 17th, in his eighty-sixth year, was educated at the Middlesex Hospital, and commenced practice in South Molton in 1859. Of this town he was several times elected mayor. He retired from practice in 1893. JOHN DAVIES JAMES, M.R.C.S. Eng., L.S.A., J.P., D.L., who died on March 4th, aged 73 years, studied at St. Bartholomew's Hospital and qualified in 1857. He settled at Blackwood in Monmouth and was made justice of the peace in 1869. He served for 18 years on the Bedwellty School Board and was elected an alderman in 1893. He was also deputy lieutenant for the county of Monmouth. JOHN HAMILTON BUCHANAN, M.D. St. And., J.P., who died on March 22nd, aged 74 years, studied medicine at Anderson's College and graduated M.D. of the University of St. Andrews in 1859. He finally settled at Thirsk, where he practised for 33 years. He was the first medical officer of health to the Thirsk union, a public vaccinator, and appointed a justice of the peace for the North Riding in 1893. THOMAS EVANS, M.D. Edin., L.R.C.S. Edin., who died in April, at Newquay, was educated at the University of Edinburgh, where he graduated M.D. in 1855. Practically the whole of his professional life was spent in Newquay where he filled several public appointments of a professional nature and he was also chairman of the Newquay school

HENRY WILLIAM HARTFORD, L.R.C.P., L.R.C.S. Irel., wh
died on March 30th, was educated in Ireland and qualifi
in 1875. In 1877 he went to Christchurch, Hampshir
where he practised until his death. He was medical officer
health of the Lymington district, medical officer to the wor
house, and a member of the town council. JOHN JAM
WILLIAMS, M.D. St. And., M.R.C.S. Eng., L.S.A., J.P., wh
died in his eighty-fifth year on March 31st, was educate
at St. George's Hospital. He qualified in 1849 an
practised for many years at Talybont-on-Usk. In 18
he was placed on the commission of the peace for th
county of Brecon. WILLIAM WOOD, M.B., C.M. Edin
F.R.C.P. Edin., who died in the month of April, aged
years, graduated in 1890 and started practice in Edinburg
He was lecturer on materia medica at the Edinburgh Scho
of Medicine. MATTHEW BAINES, M.D. Lond., M.R.C.
Eng., who died on May 5th, entered King's College Hospit
as a student more than 60 years ago. After qualifying
1845 he studied in Paris and then settled in Sou
Kensington. Here he practised until his death. He w
warmly interested in the Volunteer movement and
ambulance work, being a *Knight of Grace of the Order*
St John of Jerusalem. MICHAEL MCWILLIAMS BRADLE
M.D., C.M. Glasg., L.R.C.P. Edin., J.P., who died
May 25th, had practised since 1872 in Jarrow. He was
various times medical officer of health, parish surgeon, an
surgeon to the police. He took great interest in publi
affairs, was a member of the town council, and served f
20 years on the commission of the peace. EDWAR
FRANCIS WILLOUGHBY, M.D. Lond., D.P.H. Cantab. an
Lond., M.R.C.S. Eng., who died on July 29th, was educate
at University College, London, and qualified in 186
He practised in the North of London and devoted
great deal of his time to questions of public health
The Rev. JOHN JOHNSTONE MACDONALD, M.D. Edin., wh
was murdered by Chinese river pirates in the month of Jul
and who received his fatal wound while attending to th
wounded captain of the steamer in which he was travelling
was educated partly in Edinburgh and partly at the Middlese
Hospital. He had served as a medical missionary in con
nexion with the Wesleyan Methodist Missionary Society f
22 years. JOSEPH MAY, L.R.C.P. Edin., L.F.P.S. Glasg.
L.A.H., J.P., who died on Oct. 8th at the advanced age
90 years, qualified in 1844. He practised all his life
Rathfriland and was in addition a Justice of the Peace fo
the county of Down. TOM WALKER, M.B. Lond., B.S. Lond.
M.R.C.S. Eng., L.R.C.P. Lond., who died at the age
37 years in the month of October, began life as
pupil teacher in a board school. At the age of 28 yea
he decided to go in for medicine and studied at th
Owens College. He qualified in 1903 and at th
time of his death was surgeon to the large Manchest
workhouse schools at Swinton. WILLIAM SEDGWICK
M.R.C.S. Eng., L.S.A., who died on Oct. 22nd, was born i
1822. He was educated at University College Hospital an
qualified in 1845. He settled down in Marylebone and wa
noted for admirable papers upon the heredity of disease an
upon cholera. EDWARD DRUMMOND, M.D. Edin., M.R.C.S.
Eng., D.P.H. Camb., who died on Oct. 20th, was educated a
Aberdeen and Edinburgh. He graduated M.D. of the [illegible]
University in 1864 and started practice in Oldham. I
1874, however, he gave up this on account of his health an
finally settled in Rome, where he was physician to the Britis
Embassy. GEORGE THOMPSON, M.D. Aberd., J.P., who died
in the month of November, was born in 1844 and graduated
at the University of Aberdeen in 1872. He practised i
Oldham, where he was surgeon to the infirmary and coroner.
He was much interested in ambulance work and for his
services in the Boer war received the South African medal a
the Order of St. John of Jerusalem at the hands of the [illegible]

CHARLES WILLIAM BROWNE, M.R.C.S. Eng., L.S.A., who died on Sept. 21st in British Bechuanaland, was born in 1837 and educated at the Westminster Hospital, qualifying in 1858. In 1866 he went to South Africa and practised at various places, being at the time of his death district surgeon and Justice of the Peace at Taungs, British Bechuanaland. JOHN GEORGE DOUGLAS KERR, M.B., C.M. Glasg., J.P., who died on Nov. 14th, was educated at Glasgow University, where he graduated M.B. in 1878. He was a well-known practitioner in Bath and a successful racing yachtsman. WILLIAM LLOYD ANDRIEZEN, who died on Nov. 24th at the early age of 36 years, was educated at University College Hospital and graduated M.B. of the University of London in 1891. He was a brilliant neurologist and worked for some time as pathologist at the West Riding Asylum, Wakefield. Among other medical men of whose careers space fails us to give details and who have passed away during the year just expiring are GEORGE LOWSON, M.B., C.M. Glasg., who died on Feb. 10th; WALTER FREDERICK MITCHELL, M.R.C.S. Eng., L.S.A., who was born in St. Bartholomew's Hospital, his father being Hospitaller there; THOMAS DUDDINGSTON WILSON, M.A., M.B. Edin., F.R.C.S. Edin., who died on March 8th. THOMAS EDWARD WILLIAMS, F.R.C.S. Edin., M.R.C.S. Eng., L.S.A., J.P., who died on March 7th, was educated at St. Bartholomew's Hospital and qualified in 1853. He practised for many years in Talgarth and was a good sportsman and a Justice of the Peace for the district. CHARLES EDWARD STEELE-PERKINS, who died on March 7th, came of an old Devonshire family, was educated at Guy's Hospital, and qualified in 1870. For nearly 30 years he practised in Sydenham, where he was consulting physician to the South London Dispensary for Women and Children. JOHN HUNTER, M.B., Ch.B. Aberd.; JESSIE MACLAREN MACGREGOR, M.D. Edin., L.R.C.P. & S. Edin., L.F.P.S. Glasg., who died in Denver, U.S.A., in March; ARTHUR BLACKWOOD, M.D. R.U.I., who died on April 8th from an illness contracted in discharge of his duties; WILLIAM SCOTT CORE, M.D. R.U.I., who died on April 21st and was a well-known practitioner in Belfast; GEORGE APPLETON, M.R.C.S. Eng., L.S.A., who died on May 11th and was for many years chairman of the Helston board of guardians; WILLIAM RAE, M.R.C.S. Eng., L.R.C.P. Edin., who died on May 14th; HUGH MCLEAN, M.D. St. And., M.R.C.S. Eng., L.S.A., who died on April 27th, and practised in Corbridge-on-Tyne for 44 years; ROBERT THOMAS POOLE COLLYNS, M.R.C.S. Eng., who died on May 11th; JAMES BUTLER NORRIS CANE, L.R.C.P. & S. Edin., who died on June 22nd; LAWRENCE DUKES, M.A., M.B., B.C. Cantab., who died through a lift accident in University College Hospital on June 19th; WILLIAM BATES RAMSDEN, B.Sc., M.B., Ch.B. Vict., who died on June 29th and who, though a medical man, devoted himself to chemistry, especially as regards the question of food preservatives; EDMUND THOMAS WHITAKER, M.B., C.M. Edin., who died on August 29th, who, besides being prominent in public health work in Wales, was a skilled linguist, knowing Welsh, French, German, and Esperanto; JOHN HANCOCK WATHEN, M.R.C.S. Eng., L.R.C.P. Edin., L.S.A., who died on Oct. 5th; GEORGE COLE BAKER, M.D. Dub., L.R.C.P. Irel., who died suddenly on Sept. 26th; RICHARD ORFORD LAMPREY, L.R.C.P. & S. Edin., who died on Oct. 13th; RICHARD WILLIS, M.R.C.S. Eng., L.S.A., who died on Dec. 4th from pneumonia, was a well-known practitioner in the west of England and was in his eighty-seventh year at the time of his death; JOHN LINDSAY MACLEAN, M.D. Edin., L.R.C.S. Edin., who died at Bath on Oct. 19th; ARTHUR HENRY WEISS CLEMOW, M.D. Edin., who died on Oct. 27th, was for many years a prominent practitioner in the West of London; WILLIAM HORROCKS, M.R.C.S. Eng., L.S.A., who died on Nov. 4th; THOMAS PARTRIDGE, M.R.C.P. Irel., M.R.C.S. Eng., L.S.A., who died on Nov. 14th and who had at one time served as a surgeon in the United States Navy; ROLAND ARTHUR STEVENSON, L.R.C.P. Lond., M.R.C.S. Eng., who died on Nov. 19th; SAMUEL AIRD JOLLY, L.R.C.P. & S. Edin., L.F.P.S. Glasg., who died on Nov. 14th; and WILLIAM STOTT STEELE, M.D. St. And., M.R.C.S. Eng., L.S.A., who died on Dec. 1st in his seventy-seventh year, and who commenced his medical education by being apprenticed to a medical man at the age of 15 years. He then passed to Guy's Hospital and after qualifying practised in Yorkshire and later at St. Mary Church.

Foreign Practitioners.

In the closing hours of the year 1905 there passed away one of the foremost of Italian physicians in the person of ANGIOLO FILIPPI. He was educated at the University of Pisa and after graduating in 1858 went through a post-graduate course of medicine at Florence. During the year 1859–60 he served with GARIBALDI as a volunteer, and in 1866 he served as a military surgeon in the campaign against Austria. In 1867 he was appointed assistant professor of pathology at Florence and in 1875 coadjutor to Professor BELLINI, who held the chair of medical jurisprudence at the same university. On BELLINI'S death FILIPPI succeeded him. FILIPPI'S tenure of this chair made it one of the first in Europe in the particular subjects dealt with and he endowed Florence with a medico-legal laboratory unrivalled in Italy and not surpassed abroad. Professor MAX NITZE of Berlin died suddenly on Feb. 24th. He was born in 1848 and was educated at the Universities of Heidelberg, Wurtzburg, and Leipsic. His name will be for ever held in memory by surgeons owing to his invention of the cystoscope. Professor BROUARDEL of Paris, who died in the month of August, was the *doyen* of French medicine and is celebrated throughout the world for his work in the subjects of forensic medicine, public health, and hygiene. His career and various fields of work were so fully described in the obituary notice, which appeared in our issue of August 11th, that there is no need to recapitulate them here. GIUSEPPE LAPPONI who died on Dec. 7th had been the body physician of two Popes—namely, the present Pontiff PIUS X. and his immediate predecessor LEO XIII. He was born in 1851 and the cause of his death was malignant disease of the liver primarily, although he finally succumbed to an attack of pneumonia.

Once more we conclude the list of those of our fellows whose earthly work is finished. Some have passed away full of years, others while yet young, but of all of them it may be said that they have striven to relieve suffering and to add if ever so little to our knowledge of the treatment of disease.

Annotations.

"Ne quid nimis."

ARMY MEDICAL SERVICES: APPOINTMENT OF A RECONSTITUTED ADVISORY BOARD.

WE have received from the War Office the following official communication for publication:—

"The Advisory Board for Army Medical Services having now completed the details of army medical reorganisation referred to them by the Reorganisation Committee of 1901, the Secretary of State for War has decided to reconstruct the Board and to make it more distinctly advisory in its functions.

The new Board will consist, in addition to the Director-General who will be chairman, of a civilian sanitary expert, a civilian physician, a civilian surgeon, and a civilian physiologist, an officer of the Royal Army Medical Corps specially qualified in sanitation, an officer of the Royal Army Medical Corps with special knowledge of tropical diseases, an officer of the Royal Engineers from the department of the director of fortification and works, and the

President of the Medical Board India Office, as well as the Deputy Director-General, who will act as vice-chairman.

The army hospital and sanitary committee will be dissolved and all scientific questions hitherto submitted to that committee will be referred to the Army Medical Advisory Board.

1. The committee will carry out such scientific investigations as they may deem requisite for the elucidation of points referred to them. For these purposes they will have power to co-opt members of the staff of the Royal Army Medical College.

2. The committee will advise upon such matters under the following heads as may be referred to them by the Director-General: (*a*) upon medical and surgical questions affecting the military services; (*b*) upon matters of hygiene and sanitation as they affect the soldier, especially as regards his physical training, rations, and clothing, as well as his housing and sanitary environment in peace and war; (*c*) upon the provision of hospitals and their equipment.

3. The committee will in each year take into consideration the statistics and reports furnished by the Army Medical Department and furnish thereon an annual report for presentation to Parliament.

4. They will advise as to the mode of admission of candidates, the courses of study for officers, the appointment of examiners for all examinations for promotion, as well as the appointments of professors and teachers in connexion with the Royal Army Medical College, and make such recommendations for the government of the College as may seem to them desirable.

The committee will advise upon the plans of all new barracks and hospitals proposed for construction and upon all fundamental questions connected therewith. In future recommendations for promotion to the fixed establishments of the Army Medical Service will be made by a board consisting of the Director-General and the Surgeon-Generals serving at home before submission to the selection board. Steps will be taken to appoint an officer of the Royal Army Medical Corps to act as inspector of hospitals and of army sanitation on the staff of the Inspector-General of the forces."

From a general point of view the changes indicated above are, we think, distinctly for the good of the services and much to be desired at the present time. Owing to the great pressure on our columns this week caused by the Annus Medicus we must reserve a detailed examination and criticism of the scheme until our next issue. It may perhaps be pointed out that for the word "committee" in the paragraphs numbered 1, 2, 3, and in the concluding paragraph "Board" should probably be substituted.

METROPOLITAN HOSPITAL SUNDAY FUND.

THE annual general meeting of the constituents of the Metropolitan Hospital Sunday Fund was held at the Mansion House on Dec. 20th, when the report for the year 1906, which was published in THE LANCET of Dec. 8th, p. 1617, was presented and adopted. The Lord Mayor presided and among those present were the Bishop of London, the Bishop of Islington, the Chief Rabbi, Sir William S. Church, Sir Henry Burdett, Archdeacon Sinclair, Sir Savile Crossley, the Hon. Sydney Holland, Prebendary Ingram, the Rev. Dr. J. H. Rigg, the Rev. E. H. Pearce, Canon Horsley, the Rev. W. H. Harwood, Canon Covington, and Mr. Wakley. In moving the adoption of the report the Lord Mayor referred in sympathetic terms to the loss which the Fund had sustained by the deaths of Sir Sydney H. Waterlow and Mr. George Herring. The Bishop of London said that he rejoiced in the work of the Fund not only because of the greatness of its aim but because of the fact that it drew together all denominations in the cause of the sick poor. With Sir William Treloar as President of the Fund and his well-known love for the poor children of London the collection for 1907 ought to be a record one. The King Edward VII. Fund had distributed this year £111,000, and if the Hospital Sunday Fund collection could be brought up to £100,000 it might be possible to cope with the needs of the hospitals of London. He should regret very much if the time should come when hospitals had to be rate supported. The Chief Rabbi urged the need of increase support from the inhabitants of Greater London and th home counties, because the hospitals of London are onl metropolitan in regard to their locality—the patients cam from all parts of the country and from every British colony Hospital Sunday for all denominations except the Roma Catholic Communities will be held on June 9th. This dat being inconvenient for the Roman Catholics their collectio for the Fund will take place on June 2nd. Speaking t the motion that the council for the year 1906 be re-electe for the year 1907, with the addition of the Rev. E. S Hilliard, the Right Hon. Lord Cheylesmore, Sir Walt Vaughan Morgan, Bart., and Mr. A. Pearce Gould, and th it be left to the council to fill the other vacancies (o clerical and five lay members), Canon Horsley strongly urg the necessity of greater hospital accommodation for Sou London. As our readers will see from the report of the wo of the Fund for 1906 in our current issue, p. 1815, mo than £63,000 were collected during the year, notwithstan ing a great falling off in the total of the collectio in the various places of worship. The cause of this decrea in the amount actually collected in churches and chapels said to be due to the now almost universal practice amo wealthy people of taking a holiday at the end of the wee Much has been done to remedy this state of things but mu more could be done if all ministers would follow the examp already set by some of making a special appeal, either p sonally or by letter, to those of their congregations who likely to be absent from church or chapel on Hospi Sunday. In 1905 the total amount collected by the Fu was £78,379 and we trust that during 1907 the amou collected will at least reach that sum.

FRESH AIR AND INFLUENZA.

CROWDED places take first rank as disseminators of dise and especially respiratory disease unless, which is rarely case, they are adequately ventilated. There is no fac more favourable to the successful invasion of the hu body by the disease-producing organism than when ai rendered stale, warm, and musty by human exhalati For that reason the visit to the place of worship, the conc room, the ball room, the theatre, or the social gathering may often be traced as the starting-point of a common cold or of influenza. There is probably more illness caused by defective ventilation than by draughts. The person who shuts himself up in a very warm room with every source of ventilation practically closed so that the vital quality of the air is destroyed is invariably the first victim of influenza. Such a condition of environment has an extraordinary effect in lowering the general tone of the body and its power to resist disease. Disease germs are of course ubiquitous and the only chance of escaping their successful and insidious attack is by keeping the body proof against them by preserving a power of resistance, by keeping, so to speak, the soil in a condition opposed to their development and growth. In being careful, however, to take measures to keep the body in a disease resisting state there is the serious handicap of having to submit to the indifference of others. In most places of amusement in London, for example, crowds of people are entertained under an environment teeming with pathogenic organisms and in which the conditions of the air and surroundings are so obviously unhealthy as rapidly to lower the health standard of the body and to render the attack of the disease entity an easy success. In the same way it is futile for a person to provide for himself a satisfactory standard of health by insuring *inter alia* an abundant supply of fresh air in his own home if even only occasional social engagements compel im to resort to the crowded, ill-ventilated drawing-ooms or dining-rooms of his friends. It is time that he real mischief caused by stuffy places and by devitalised ir was more seriously taken to heart than it is. Such laces are for certain a fertile source of influenza and espiratory disease and it seems to us that in regard at all vents to public buildings our health authorities should give heir earnest attention to the matter with the view of protecting the public against those diseases which are engendered by the insanitary and unscientific conditions described. It is not a little instructive that influenza is invariably endemic at a time when ventilation is least invited because of the coldness of the season, when every step is taken to keep our houses and places of meeting warm, which generally means that fresh air is carefully excluded. On the other hand, in the warm days of summer fresh air is enjoyed at every possible opportunity; our windows, our doors are kept widely open, and fresh healthy air pervades all things. Influenza is not a summer disease and it is hardly conceivable that the germ of this disease can only flourish in the winter unless we find an explanation in the view that its energies are greatly stimulated by stopping the supply of fresh air and by overheating the rooms in which we live. Cold and variations of temperature are, of course, a factor in the etiology of the disease, but its chances of spreading would be far less if people would insist on breathing fresh air.

THE TREATMENT OF CONSTIPATION BY COTTON GAUZE AND SOAP TAMPONS.

IN cases of atonic constipation tampons of wool or of cotton have been introduced into the rectum with success and soap has long been extensively employed in promoting alvine evacuation. These methods as described in *La Semaine Médicale* of Oct. 24th, have been combined by Dr. C. Colombo with excellent results in cases where constipation is due to recto-sigmoid insensitiveness. He recommends the use of a fusiform tampon of cotton gauze, measuring six or seven centimetres in length and from 15 to 20 millimetres in thickness, and thickly covered with a layer of soft soap. The tampon is provided with a thread to facilitate removal from the rectum. He finds that under the dual stimulation of the soap and the gauze an evacuation usually results after from 10 to 15 minutes; in more obstinate cases the mechanical action of removing the tampon is sufficient to produce the desired effect. In still more obstinate cases he suggests a preliminary injection into the rectum of from 150 to 200 cubic centimetres of soap solution.

A DINNER for past and present students of the Royal London Ophthalmic Hospital will be held at the Trocadéro Restaurant, Shaftesbury Avenue, W., on Wednesday, Jan. 30th, 1907, at 7.45 P.M., under the presidency of Mr. Jonathan Hutchinson, F.R.S. Each student is entitled to introduce two guests. The cost of tickets is 10*s.* 6*d.* each, exclusive of wine. Applications for tickets should be made as soon as possible, and not later than Jan. 20th, to one of the honorary secretaries, Mr. Arnold Lawson, 12, Harley-street, W., and Mr. J. Herbert Parsons, 27, Wimpole-street W.

SEWERAGE SCHEME FOR PORT TALBOT.—The district councils of Margam and Port Talbot have decided to carry out an extensive sewerage scheme in the two districts which adjoin one another. The cost will be considerable and will tax the resources of the inhabitants for some years, so it is pleasing to find that assistance has been offered by Miss Talbot, the principal land owner in the locality, who has undertaken to give £5000 towards the proposed outlay. This is not the first time that Miss Talbot has given substantial assistance in promoting sanitary improvements, for in 1895 she presented the Margam district council with a plot of land upon which it erected a fever hospital at a cost of nearly £4000, which sum was lent by Miss Talbot without interest but to be paid back by annual instalments in 40 years.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Dec. 27th, 1828.

SURGICAL REFORM.

A Meeting was held on Tuesday evening, at the Freemasons' Tavern, in pursuance of an advertisement calling on the "Friends of Surgical Reform, the Supporters of a free Medical Press, and the humane Contributors to our Hospitals and Infirmaries," to meet there, in order to adopt measures for presenting Mr. Wakley, the Editor of THE LANCET, with some decided mark of their approval of his spirited conduct, in his late trial in the Court of King's Bench, at the suit of Mr. Bransby Cooper, and of the principles which he so powerfully advocated on that occasion."

WE call the attention of our readers to a Report of the Proceedings which took place at the Freemasons' Tavern on Tuesday last, in consequence of an Advertisement calling on the Friends of Surgical Reform, the supporters of a Free Medical Press, and the humane contributors to our Hospitals and Infirmaries, to assemble for the purpose of taking into consideration the propositions which, as will be seen, were discussed and adopted at the Meeting. The Meeting was advertised *for seven o'clock*, and, *shortly after* that hour, was numerously attended; but, by the time the chair was taken, the room was crowded to an overflow; nearly three hundred persons being present.

We are not insensible to the mark of approbation spontaneously bestowed upon our public conduct by the numerous and highly respectable meeting assembled on this occasion, but we consider the proceedings at that Meeting more especially entitled to attention, as affording a proof of the state of public feeling with respect to the corrupt system which prevails at our charitable institutions—a system which must, ere long, undergo a complete reform.[1]

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[1] Excerpt from a leading article.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons: G. Nunn to the *Barham;* L. C. Rowan-Robinson to the *Dwarf;* J. McA. Holmes to the *Sandpiper* on recommissioning; E. R. Townsend to the *Imogene*, additional, and on recommissioning; F. C. Robinson to the *Sapphire*, to be lent to the *Tyne;* H. Stone to the *Woodlark;* G. C. Cross to the *Wildfire* for the *Endymion;* G. D. Bateman to the *Ganges* for the *Caroline;* T. H. Vickers to the *Sphinx;* and R. H. Atkins to the *Lapwing*.

ARMY MEDICAL STAFF

Surgeon-General J. A. Clery, C B., from temporary half-pay, is placed on retired pay (dated Dec. 21st, 1906).

ROYAL ARMY MEDICAL CORPS.

Major I. A. O. MacCarthy is posted to the Curragh. Lieutenant-Colonel R. Porter is appointed to the Military Hospital at Belfast. Major J. Girvin, from the London District, is appointed for duty on the West Coast of Africa.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Alec Phillips, having resigned his commission in the Volunteers, ceases to belong to the Army Medical Reserve of Officers.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Devonshire: Surgeon-Major J. W. Hodgson is granted the honorary rank of Surgeon-Lieutenant Colonel (dated Nov. 10th, 1906). Surgeon-Major and Honorary Surgeon-Lieutenant Colonel J. W. Hodgson resigns his commission with permission to retain his rank and to wear the prescribed uniform (dated Nov. 11th, 1906). The Highland: Surgeon-Major M. Mackenzie to be Surgeon-Lieutenant-Colonel (dated Oct. 23rd, 1906).

Rifle: 5th Volunteer Battalion the Royal Scots (Lothian Regiment): Surgeon-Lieutenant-Colonel J. A. Gray is granted the honorary rank of Surgeon-Colonel (dated Nov. 26th, 1906). Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel J. A. Gray resigns his commission with permission to retain his rank and to wear the prescribed uniform (dated Nov. 27th, 1906). 3rd Volunteer Battalion the Northumberland Fusiliers: Herbert Mathew Jamieson to be Surgeon-Lieutenant (dated Nov. 1st, 1906). 2nd Volunteer Battalion, Alexandra, Princess of Wales's Own (Yorkshire Regiment): Surgeon-Captain J. F. Porter is retired under the conditions of paragraph 103, Volunteer Regulations, with permission to retain his rank and to wear the prescribed uniform (dated Nov. 15th, 1906). 3rd Volunteer Battalion the Gloucestershire Regiment: Surgeon-Lieutenant F. St. J. Bullen to be Surgeon-Captain (dated Nov. 13th, 1906). 5th (Isle of Wight, "Princess Beatrice's") Volunteer Battalion the Hampshire Regiment: Surgeon-Captain K. W. I. Mackenzie to be Surgeon-Major (dated July 17th, 1906).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Northern Command: Leeds Companies: Frederick Whalley to be Lieutenant (dated Nov. 7th, 1906). *Scottish Command:* Glasgow Companies: Lieutenant J. Walker to be Captain (dated Dec. 1st, 1906); South Wales Border Bearer Company: Lieutenant R. A. Cowie resigns his commission (dated Nov. 12th, 1906).

DEATHS IN THE SERVICES.

Deputy-Inspector-General Robert W. Beaumont, R.N., at Maidstone on Dec. 22nd, aged 78 years. He entered the service as surgeon in 1848, was appointed staff surgeon in 1857, fleet surgeon in 1869, and retired as deputy-inspector-general in 1883. He served in the *Castor* during a severe outbreak of dysentery at Zanzibar in 1850, and also during the Kaffir war of 1850–52 (Kaffir medal). In 1853–54 he served in the *Naiad* during an epidemic of yellow fever at Callao, being engaged in the following year in the *Trincomalee* at Petropaulovski and the blockade at Sitka. Subsequently he was with the expedition against Indian tribes at Vancouver's Island, and served in the *Lapwing* on the coast of Syria during the Christian massacres and French occupation in 1859. In 1864 he served in the *Jason* during an epidemic of yellow fever at Bermuda, while during a similar outbreak at Port Royal in 1867 he served in the *Constance* and was senior medical officer of the flagship *Minotaur* at the occupation of Cyprus in 1878.

A NEW MANUAL OF ARMY SANITATION.

It is understood that a new manual has been prepared for army sanitation in the field. This promises to prove of great service in furnishing regimental officers and men with an available and useful guide in matters relating to army hygiene, in promoting which and the health of the army they can do so much.

PHYSICAL TRAINING IN THE ARMY.

A new kind of physical training is to be taught in the army. It is a copy of the Swedish system and is considered much better than that now in use in the service. Gymnastic instructors from all parts of the United Kingdom have just completed a course of training in the new drill which will shortly come into practice.

Correspondence.

"Audi alteram partem."

THE PROPOSED UNION OF MEDICAL SOCIETIES.

To the Editors of THE LANCET.

SIRS,—We shall be much obliged if you will permit us to inform your readers of the decision of the societies on the above question. Twelve societies have decided to join the union—viz., British Electro-therapeutic; British Gynæcological; British Laryngological, Rhinological, and Otological; Clinical of London; Dermatological of Great Britain and Ireland; Dermatological of London; Epidemiological; Neurological; Odontological of Great Britain; Obstetrical of London; Pathological of London; and Royal Medical and Chirurgical. Four societies are willing to join under certain conditions—viz., British Balneological Climatological; Laryngological of London; Otologic the United Kingdom; and Therapeutical.

In the case of some societies, such as the Anatomic Great Britain and Ireland, the Physiological, the Me Psychological, and the Medico-Legal, there are pec difficulties, but the members of certain of these soci have indicated their willingness to form similar sectio the new society. Five societies have definitely refuse join the union—viz., Life Assurance Medical Officers' A ciation; Medical Society of London; Ophthalmolo Society of the United Kingdom; Society of Anæsthet and the Society for the Study of Diseases of Children.

The first meeting of the representatives of the soc which are forming the union will be held at 20, H square, on Friday, Jan. 18th, at 5 P.M.

We are, Sirs, yours faithfully,
ARTHUR LATHAM,
HERBERT S. PENDLEBURY,
Honorary Secretaries of the Organising Committ

38, Portland-place, W., Dec. 23rd, 1906.

AMYL NITRITE IN HÆMOPTYSIS.

To the Editors of THE LANCET.

SIRS,—While agreeing with Dr. Albert Abrams's c clusion in THE LANCET of Dec. 15th, p. 1685, that a nitrite "is the most efficient and expeditious remedy possess in the treatment of hæmoptysis," I should like question his view as to the mechanism of the action of drug. Dr. Abrams believes that "the action of amyl nit in hæmoptysis is due essentially to an irritation of broncho-constrictor fibres of the vagus which, acting on bronchial musculature, causes the latter to express the bl from the lungs in a manner similar to that when wate squeezed from a sponge" (p. 1686). It may be asked: (1) H could any contraction of the bronchial tubes express the bl from the pulmonary parenchyma? (2) Would not contract of the bronchial tubes cause obstructive dyspnœa similar if not identical with, that which constitutes an asthma paroxysm? and (3) How can the action of amyl nitrite u systemic hæmorrhage, say from the uterus, be explained?

I am, Sirs, yours faithfully,
FRANCIS HAR

Dec. 22nd, 1906.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Temperament and the Thyroid Body.

AT a meeting of the Biological Society held on Dec. 8 M. Léopold-Lévi and M. Henri de Rothschild communicat a paper on the influence exercised by the thyroid body on t temperament of a person. They said that they had seen t temperament of a girl aged 17 years change completely consequence of the administration of 175 cachets of thyro substance. She became slightly thinner and her figu assumed an appearance of lightness, her features beca sharper, and her eyes showed more brilliancy and expressio A great mental change simultaneously manifested itsel Formerly she spoke little, was rather low-spirited, and w always tired, drowsy, and inattentive to her work, but no she showed a kind of joyous excitement attended b bursts of merriment and sometimes foolish laughter. Sh also talked a great deal, took an unwonted interest in he work, and was no longer anxious to go to bed. She slep uneasily and her pulse-rate varied between 90 and 110 M. Léopold-Lévi and M de Rothschild remarked on th resemblance between her present state and the conditio which has been called *nervosisme*, some varieties of whic were due to slight spontaneous manifestations of thyroi activity (*hyperthyroidation*), continuous in their action wit occasional exacerbations. They also remarked on th changes of temperament due to the thyroid body, as see during pregnancy and menstruation, at the menopause, i some infectious diseases, and in the effects produced b certain drugs.

Surgical Operations in Cancer of the Stomach.

At a recent meeting of the Société Médicale des Hôpitau M. Lion gave an account of the results of surgical op for cancer of the stomach, especially in the pyloric re ıenced by remarking that exploratory laparotomy ; dangerous. Gastro-enterostomy was a highly l operation and always brought about considerable ıent; among 12 cases he had only one death in the ȝe, the patient being a man aged 78 years. Gastrec-ıs a more serious operation; in six cases three *one 70 days and another 10 months; the third* male who was now alive and well three years and ınths after the operation.

Accidents to Workmen.

French law relative to accidents to workmen there al clauses showing that the legislature intended to ıpensation only for medical attendance in such ıen it is given by a qualified practitioner. The payable are fixed for medical attendance and minor operations corresponding to the charges made for atients once or oftener either at their own homes or ractitioner's house, expressions which have no mean-pt in connexion with attendance given by a duly quali-ctitioner. Unqualified persons cannot fulfil this con-which is to the advantage not only of the sufferer but he employer who has to pay the compensation. This s been recently enforced by a law court in Paris, ejected a claim made by an injured workman for s and medicines supplied by an unqualified person. ase the employer advanced the sound argument that l not be responsible except for the fees payable to a l practitioner, and the court held that the workman ıt recover what he might have paid to an unqualified rson.

th.

CONSTANTINOPLE.

(From our own Correspondent.)

Typhoid Fever.

L isolated epidemics of typhoid fever have occurred rent districts of the metropolis and several deaths are l. The sanitary authorities as well as the munici-have taken various measures to stop the further s of the disease. On the outskirts of Constantinople e numerous orchards which are watered from wells er water sources by a variety of mechanical contriv-It has been found that the water used for that pur-very frequently dirty and contaminated and the authorities are convinced that this is the real cause resent outbreak. Epidemics, however, are seldom of nature in the Turkish capital in spite of the unsatis-sanitary and hygienic conditions.

New Charitable Institutions.

ocal newspapers give long accounts of the charitable ions which are to be built with the large sums of given by the different members of the wealthy Greek of Mavrogordato. 12,000 Turkish liras are offered erection of an asylum for old men and women. This will be most efficiently organised and equipped. as are given for the creation, in different philan-institutions, of surgical cliniques which will admit, most part gratuitously, patients of every nationality. 2000 liras are given for the erection of a special for infectious diseases. Sums are assigned for a for tuberculous cases. The mother of M. ordato will found a special hospital for small-pox. have 48 beds, 26 for poor and 22 for paying patients. r member of this philanthropic family offers the ry capital to build and to keep up four stone houses for patients. The above-mentioned asylum for old will contain 200 beds, of which 140 will be for men e rest for women. It will be built according to the f M. Mavrogordato in such a manner that an addi-storey may be subsequently added if required.

Penalties for Adulteration of Drugs.

Inspector-general of public hygiene has been ordered e very severe measures against druggists in whose deteriorated preparations and medicines have been Similar measures are to be taken against the herbalists and vendors of spices of the so-called Egyptian bazaar (Missir-Tcharshi), who very often sell adulterated articles.

Dec. 14th.

Obituary.

FREDERICK ABELL HUMPHRY, F.R.C.S. Eng.

Mr. Frederick Abell Humphry, who died at his residence at Crowborough on Dec. 3rd, was the son of Mr. George Humphry of Balham Hill. He was born in 1830, was educated at Tonbridge School, became a pupil of his cousin, Sir George Murray Humphry, at Cambridge in 1848, and entered at St. Bartholomew's Hospital Medical School in 1850. At the hospital he early distinguished himself by gaining several prizes, being one of the best men of his year. He became qualified in 1853, obtaining the diploma of M.R.C.S. Eng. and L.S.A.; in 1856 he was admitted a Fellow of the College. In 1853 he was appointed Sir William Lawrence's house surgeon at St. Bartholomew's Hospital and at the end of his year's term of office he settled at Brighton in partnership with Mr. A. Scott. In 1860 he was appointed assistant surgeon to the Sussex County Hospital where he held office as surgeon up to the time of his retirement from active work in 1891 when he was elected consulting surgeon. He delivered the Address in Surgery at the meeting of the British Medical Association in 1866.

Mr. Humphry was a thoroughly well-informed and practical surgeon, a good and experienced operator, and as a consultant he was held in high repute by his contemporaries. Of remarkably quiet and unassuming manners, he was a high principled and honourable man, and was greatly esteemed by those who knew him no less for his personal qualities than for his prudence and sound judgment in professional matters. He leaves a widow and a large family, of whom four sons are in the medical profession and one of them served in the Royal Army Medical Corps in the late South African war.

ALEXANDER WAUGH, L.R.C.P. Lond., M.R.C.S. Eng.

Mr. Alexander Waugh, who died on Dec. 2nd, was born at Warminster in 1840. He received his professional education at the Bristol Medical School and St. Bartholomew's Hospital, London, and at the age of 24 years began to practise in Midsomer Norton, where he died. For 40 years he was Poor-law medical officer to the Clutton board of guardians, retiring on superannuation only in April of the present year. In 1880 he was President of the Bath and Bristol branch of the British Medical Association. In the public life of the district Mr. Waugh took a deep interest, no public institution being established without his active coöperation and support. As a professional neighbour he will be greatly missed and he will be remembered with feelings of regard by all who have been brought in contact with him.

Medical News.

Society of Apothecaries of London.—At examinations held in December the following candidates passed in the subjects indicated:—

Surgery.—R. L. H. Davy (Sections I. and II.), Royal Free Hospital; G. B. Messenger (Section I.), Westminster Hospital; F. B. O'Dowd (Section I.), Birmingham; W. F. Skinner (Sections I. and II.), Sheffield; and S. H. Watton (Section I.), Manchester.

Medicine.—A. E. Blythman (Sections I. and II.), Charing Cross Hospital; R. L. H. Davy (Sections I. and II.), Royal Free Hospital; Q. S. Keat (Sections I. and II.), Cambridge and St. Mary's Hospital; D. E. C. Pottinger (Section I.), Edinburgh; and W. P. Skinner (Sections I. and II.), Sheffield.

Forensic Medicine.—R. L. H. Davy, Royal Free Hospital; D. E. C. Pottinger, Edinburgh, W. F. Skinner, Sheffield, and W. W. Stacey, Manchester.

Midwifery.—R. L. H. Davy, Royal Free Hospital, and D. E. C. Pottinger, Edinburgh.

The diploma of the society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery: R. L. H. Davy and Q. S. Keat.

UNIVERSITY OF LONDON.—At examinations in December the following were successful:—

M.D. EXAMINATION.

Branch I., Medicine.—Henry Edgar Barnes, St. Mary's Hospital; Eric Bayley, B.S., Charing Cross Hospital; Gerald Lantsbery Bunting, Westminster Hospital; Louis Edington Dickson, B.S., St. Bartholomew's Hospital and University of Liverpool; John Evans, B.S. Guy's Hospital; Robert Hammersley Lee, B.S., King's College; William Norman May, B.S., Guy's Hospital; John Owen, University of Liverpool and Guy's Hospital; Francis Baldwin Pinniger, B.S., Charing Cross Hospital; Gerald Warren Russell, Guy's Hospital; Philip Savill, University College; Charles Richard Verling-Brown, St. Bartholomew's Hospital; Bernard Harry Wedd, Guy's Hospital; Thomas John Williams, B.S., University and Royal Institution, Liverpool; and Samuel Zobel, B.S., University College.

Branch II., Pathology.—Charles Gabriel Seligmann (University Medal), St. Thomas's Hospital.

Branch III., Mental Diseases and Psychology.—Sidney James Ormond, Guy's Hospital.

Branch IV., Midwifery and Diseases of Women.—Herbert Henry Mills, Westminster Hospital; Arthur Boniface O'Brien, B.S., and Herbert Douglas Smart, B.S., Guy's Hospital; Blanche Ellnor Walters, B.S., London (Royal Free Hospital) School of Medicine for Women; and Clifford White, B.S., University College.

Branch V., State Medicine.—Annie Thompson Barnard, B.S., London (Royal Free Hospital) School of Medicine for Women; and Frank Addiusell Smith, B.S., St. Bartholomew's Hospital.

Branch VI., Tropical Medicine.—Arthur Edwin Horn, B.Sc., and Sydney Price James, St. Mary's Hospital.

M.S. EXAMINATION.

Olive Muriel Elgood, London (Royal Free Hospital) School of Medicine for Women; and Gwynne Evan Owen Williams, M.D., University College.

N.B.—These lists, published for the convenience of candidates, are issued subject to their approval by the Senate.

LONDON SCHOOL OF TROPICAL MEDICINE.—At the examination at the close of the twenty-second session the following were successful:—

*S. A. Harriss, *F M. Suckling, *P. H. Pereira (Colonial Service), *W. B. Orme (Colonial Service), *J. B. Smith, O. Bluhme, W. Cammack, Mrs. W. Cammack, E. H. Caropoulos, C. F. Fothergill, D. Giordano, H. W. Gush (Colonial Service), F. I. M. Jupe (Colonial Service), H. J. Maxwell, H. B. G. Newham, H. McG. Newport (Colonial Service). J. M. Phalen, Miguel Paz, A. B. S. Powell (Colonial Service), C. C. Robinson (Colonial Service), F. O. Stoehr, K. R. Tampi, W. A. Trumper, A. H. Wilson (Colonial Service), and W. W. Woolliscroft.

*With distinction.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.—At a meeting of the Royal College of Physicians of Edinburgh held on Dec. 6th Dr. Charles E. Underhill was elected President of the College; Dr. John Playfair, Vice-President; and Sir Thomas R. Fraser, Sir John Batty Tuke, Dr. W. Allan Jamieson, Dr. James Ritchie, and Dr. R. W. Philip were elected to the council, with the President and Vice-President. The council subsequently made the following appointments for the ensuing year: Dr. Peter A. Young, treasurer; Dr. Harry Rainy, secretary; Dr. D. Berry Hart, librarian; and Sir John Batty Tuke, curator of the research laboratory.—At an extraordinary meeting of the College held on Dec. 18th the College unanimously appointed Dr. James O. Affleck and Dr. Charles E. Underhill to be representatives of the College on the board of management of the Royal Infirmary.

MANCHESTER AND DISTRICT: DURHAM GRADUATES.—It is becoming more than ever the custom for the fellow members of the various universities who find themselves living in the same district to meet together once a year and to dine in company. On Dec. 13th the Manchester and District Association of Members of the University of Durham held its annual meeting and afterwards dined together at the Midland Hotel. Dr Ralph Young of Royton, in proposing "The University of Durham," spoke of the useful purpose which these associations serve in making the views of graduates known to the rulers of the University. The medical element was less numerously represented than the clerical and the president this year is the Rev. John Wakeford. Next year, however, there will be a medical president as Dr. Nathan Raw has been nominated for the distinction.

UNUSUAL TREATMENT OF TUBERCULOSIS.—An inquest has been held at Bath upon a child, aged four years, who died on Dec. 5th from general tuberculosis. Up to a week prior to her death she was being attended by a local medical practitioner when he retired from the case owing to the advent of Mr. Eickchen who was to have no medical training and to be an assistant Rev. Mr. Felke, a gentleman who conducts an Germany for the treatment of tuberculous patients treatment adopted by Mr. Eickchen appears to have application of cold clay poultices and the cold baths. At the adjourned inquest it was stated little patient was unconscious during the course of th ment indicated and was probably in a moribund when it was commenced.

YELLOW FEVER IN CUBA.—Mr. G. W. E. Gr vice-consul, reports to the British Foreign Office tha the Island of Cuba had been free from yellow fe some years there was an outbreak of the disease in 19 first case occurring in Havana on Oct. 17th. From th until the end of the year there were 77 cases and 24 in the island. 70 of the cases and the 24 deaths occu Havana. From Jan. 1st to Oct. 20th, 1906, there w cases of yellow fever in Cuba (34 of them in Havan 17 deaths (seven of them in Havana). The est population of the island on Jan. 1st, 1906, was 1,8 and the death-rate for 1905 was 14·38 per 1000 inhab In Havana, with an estimated population of 275,0 death-rate was 21·20 per 1000 inhabitants.

MEDICAL MAGISTRATE. — Professor A Roche has been appointed justice of the peace for the Meath.

Parliamentary Intelligence.

HOUSE OF COMMONS

THURSDAY, DEC. 20TH.

Beer and Insanity.

Sir FREDERICK BANBURY asked the President of the Local ment Board whether the percentage of recoveries in the Three C Asylum, Arlesey, where 32,800 gallons of beer were consumed la was larger than in any asylum in London or in any other England; and whether the cost per patient was also less t London or in any other part of England.—Mr. GLADSTONE answ beg to answer this question on behalf of my right honourable The percentage of recoveries in the Three Counties Asylum in year was 31·4 per cent., while in the London asylums (excludi epileptic colony) it was 38·8 per cent., and in the asylums of E and Wales generally it was 37 per cent. The total average week of maintenance in the Three Counties Asylum was 9s. 6½d., w the London asylums (excluding the epileptic colony) it was 1 and in the asylums of England and Wales the average cost was But in the case of more than one-third of those asylums the maintenance was less than at the Three Counties Asylum.

Suggested Adoption of Good Precedent.

Mr. BRIGG asked the President of the Local Government whether he would consider the desirability of introducing a Bill next session of Parliament to comprise the various clauses during the sessions of 1904, 1905, and 1906 by the Police and Sa *Committee* in Improvement Bills promoted by municipal and authorities, so as to enable local authorities without incurri expense of promoting a private Bill to adopt all, or any, of the p conferred by those clauses in the same manner as had been allo Parliament in the case of the Infectious Disease Prevention Ac the Public Health Amendment Act of 1890.—Mr. JOHN BURNS re I will give early consideration to the suggestion but I cannot mak promise as to the introduction of a Bill next session.

Adulteration of Coffee.

Mr. REES asked the Chancellor of the Exchequer whether h aware that the export trade in coffee and the duty collected on coffe largely declined, that the general committee of the London Ch of Commerce had recorded a resolution to the effect that the req ments of the present Sale of Food and Drugs Act, in reference to of label, were not sufficient for the protection of the public, and the law as to admixture and the declaration to the purchaser n greatly to be strengthened in the interest of the retail seller and the sumer of coffee; and whether he would introduce legislation requ the use of a label specifying the proportions of coffee and of in substances in every admixture offered for sale as coffee. He asked the Chancellor of the Exchequer whether he was aware the consumption of coffee had largely decreased, that the mixtures sold by retail tradesmen as coffee contained fron to 90 per cent. of chicory, that the value of this root pound was 3d. to 3½d., as against 1s. 0½d. per pound for berry, and whether he would propose legislation at an early for the protection of coffee planters and coffee consumers — ASQUITH replied: Perhaps I may be permitted to answer t questions together. I do not know quite what my hon. fri means by the export trade in coffee As regards the Customs Im Duties I do not trace any systematic decline and the figures for so far as they are available, do not appear to be appreciably below average of the past ten years. I have not seen the resolution of committee of the London Chamber of Commerce, but the of the protection of the consumer against food adulteration is with which it is my duty as Chancellor of the Exchequer to he Inland Revenue labels are merely stamps denoting uniform duty, irrespectively of the quality of the mixtures to which e affixed. I do not know what is the relative proportion of nd chicory in the admixtures sold by retail tradesmen and so the duties upon the two ingredients are practically equal the does not directly concern the Exchequer. From the point of the revenue I see no reason for introducing legislation.

Sleeping Sickness.

ERS asked the Under Secretary of State for the Colonies r, in reply to Lord Elgin's letter of May 18th, 1906, the Com- er of British Central Africa reported that any special preventive ts were required against the spread of sleeping sickness; , the Commissioner maintained his opinion that it was not y that one of the medical staff of the Protectorate should visit for the purpose of studying the question; and whether any edical officer possessing experience of this disease would be e to coöperate with the two special officers sent out by the ol School of Tropical Medicine.—Mr. CHURCHILL answered: mmissioner of the British Central Africa Protectorate, in reply- ord Elgin's despatch, proposed that the medical staff of the Pro- e should be increased with the view of carrying out preventive ts as recommended by the Liverpool School of Tropical te; he also inclined to the opinion that it would be well to send al officer of the Protectorate to study the disease in Uganda. best medical authorities in this country doubted whether any would be gained by at once introducing preventive measures, regard to the Governor's report that no foundation exists for noured occurrence of sleeping sickness on the border of the rate; and the new phase which the matter took was that the ol School proposed to send out their mission of inquiry. With sion the local officers will certainly coöperate cordially, though ot be said that any local medical officer possesses experience of ase.

Appointments.

ful applicants for Vacancies, Secretaries of Public Institutions, others possessing information suitable for this column, are ited to forward to THE LANCET Office, directed to the Sub- tor, not later than 9 o'clock on the Thursday morning of each k, such information for gratuitous publication.

T. HARRISON, M.D., B.Ch. Oxon., M.R.C.S., L.R.C.P. Lond., been appointed Honorary Ophthalmic Surgeon to the Coventry Warwickshire Hospital.

P, J. B., M.B., B.C. Cantab., has been appointed Assistant ysician to the Bradford Royal Infirmary.

A. ALAN, L.D.S. Eng., has been appointed Honorary Assistant ntal Surgeon to the Leeds Public Dispensary.

H. OVERTON, M.B. Edin., has been appointed Examiner in teria Medica at the Government School of Medicine, Cairo.

ON, G. JAMESON, M.B. R.U.I., F.R.C.S. Irel., has been ointed University Examiner in Clinical Surgery, Dublin iversity.

THOMAS ARTHUR, L.R.C.P. Lond., M.R.C.S., has been re- ointed Medical Officer of Health for the Stratton and Bude rnwall) Urban District.

W, J. D., M.B., C.M. Edin., F.R.C.S. Edin., has been appointed istant Surgeon to the Ear and Throat Department of the Royal irmary, Edinburgh.

G. L. N., L.R.C.P. & S. Irel., has been appointed Certifying rgeon under the Factory and Workshop Act for the Farnham trict of the county of Surrey.

GEORGE HARPER, D.P.H. Camb., has been re-appointed dical Officer of Health by the Darton Urban District Council.

W., M.B., B.S. Edin., has been appointed Certifying Surgeon der the Factory and Workshop Act for the Milnthorpe District the county of Westmorland.

W. ST. A., M.R.C.S., L.R.C.P. Lond., has been appointed norary Anæsthetist to the Derbyshire Royal Infirmary.

ON, THEODORE, M.D. Cantab., M.R.C.P., F.R.C.S., has been ointed Physician to the Poplar Hospital for Accidents.

LL, Miss J. H., M.D., B.S. Lond., has been appointed Surgical istrar to the Royal Free Hospital.

Major R. G., I.M.S., has been appointed Clinical Assistant to Chelsea Hospital for Women.

GEORGE W., M.D. Lond., M.R.C.P. Lond., M.R.C.S. Eng., been appointed Honorary Pathologist to the Leeds Public pensary; also Honorary Assistant Physician to the Leeds Asso- ion for the Prevention and Cure of Tuberculosis.

Vacancies.

ther information regarding each vacancy reference should be made to the advertisement (see Index).

GHAM, QUEEN'S HOSPITAL.—House Physician. Salary at rate 50 per annum, with board, lodging, and washing.

IDGE, ADDENBROOKE'S HOSPITAL.—Assistant House Surgeon six months. Salary at rate of £50 per annum, with board, dence, and laundry.

CARMARTHEN, CARDIGAN, AND PEMBROKE JOINT COUNTIES LUNATIC ASYLUM, Carmarthen.—Junior Assistant Medical Officer. Salary £150, with rooms, board, washing, and attendance.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House Physician for six months. Salary at rate of £50 per annum, with board, residence, and washing.

DOWN DISTRICT ASYLUM, Downpatrick.—Junior Assistant Medical Officer, unmarried. Salary £130, rising to £150, with board, residence, and laundry.

DUMFRIES AND GALLOWAY ROYAL INFIRMARY.—Assistant House Surgeon. Salary £25 per annum, with board and washing.

EDINBURGH SCHOOL BOARD.—Medical Officer. Salary £400.

GRESHAM LECTURESHIP ON PHYSIC.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX HOSPITAL.—Assistant House Surgeon for six months. Honorarium £20, with residence, board, and washing.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Honorarium of £25. Also Assistant Physician.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, with board and residence.

KING EDWARD VII. SANATORIUM, Midhurst, Surrey.—Pathologist, unmarried. Salary £250 per annum, with board, lodging, and attendance. Also Two House Physicians, unmarried. Salary 50 guineas per annum, with board, lodging, and attendance.

LIVERPOOL STANLEY HOSPITAL.—House Surgeon. Salary £60 per annum, with board, residence, and washing.

MARGATE, ROYAL SEA-BATHING HOSPITAL.—Resident Surgeon. Salary, £80 and £120 per annum, with board and residence.

NEWPORT (MON.) BOROUGH ASYLUM, Caerleon.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, and attendance.

NORWICH, JENNY LIND INFIRMARY FOR CHILDREN, Unthank-road.—Resident Medical Officer (female). Salary £50 per annum, with board, residence, and laundry.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—Surgeon to the Throat and Ear Departments. Also Physician to Out-patients.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Surgeon. Salary £100, with board, residence, and washing.

SEAMEN'S HOSPITAL SOCIETY, Dreadnought Hospital, Greenwich.—Dental Surgeon. Also Medical Officer in Charge of the Electrical Department. Also Medical Registrar.

SHEFFIELD, UNIVERSITY OF SHEFFIELD.—Chair of Pathology.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House Physician. Salary £100 per annum, with rooms, board, and washing.

TAUNTON, TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

VENTNOR, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION.—Senior Resident Medical Officer (salary £200 per annum); also Two Assistant Resident Medical Officers (salary £80 per annum), with board and lodging in each case. All unmarried.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, London, W.—Physician. Also Medical Officer in Charge of the Electrical Department.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon for six months. Salary at rate of £75 per annum, with board, residence, &c.

WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Salary £70 per annum, with rooms, board, and washing.

WORCESTER GENERAL INFIRMARY.—House Physician. Salary £80 per annum, with board and residence.

Births, Marriages, and Deaths.

BIRTHS.

CARSON.—On Dec. 9th, at Raglan-road, Dublin, the wife of Lieutenant-Colonel W. P. Carson, I.M.S., retired, of a daughter.

GARDINER.—On Dec. 16th, at Queen's-avenue, Muswell Hill, the wife of Douglas Gardiner, M.B., C.M., of a son.

MACNAB.—On Dec. 15th, at New Cavendish street, the wife of Angus Macnab, F.R.C.S., of a son.

MURRELL.—On Dec. 20th, at Blenheim Lodge, London-road, Reading, the wife of G. F. Murrell, M.B., of a son.

DEATHS.

DRURY.—On Dec. 13th, at Cynghordy, Carmarthenshire, Maurice O'Connor Drury, Major R.A.M.C., retired, aged 49 years.

SYKES.—On Dec. 16th, at Westfields, East Grinstead, Walter John Sykes, M.D., F.I.C., aged 64 years.

TOLLER.—On Dec. 20th, at his residence, The Zephyrs, Scarborough, Ebenezer Toller, M.R.C.S., L.S.A., late Medical Superintendent Gloucester County Asylum, formerly Resident Medical Superintendent St. Luke's Hospital, London, in his 77th year.

TRAVERS.—At 2, Phillimore-gardens, Kensington, on the 17th inst., William Travers, M.D., F.R.C.S. Eng., aged 63 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A CURIOUS CLAIM FOR COMPENSATION BY A WORKMAN'S WIDOW.

THE German courts have just given their decision in a unique case in which a claim for compensation was made by the widow of a workman who had died from the effect of an overdose of opium self-administered. For the claimant it was argued that the deceased took opium regularly in order to gain strength after an enfeebling illness and so to render his body capable of the exertion demanded by his work. He died on the day on which he took the overdose, and the widow contended that being obliged to take the poison in order to render and keep himself efficient in his calling he had died in consequence of an act appertaining to the exercise of that calling. She therefore claimed compensation under the statute but did not succeed. The Government Insurance Department admitted that the taking of medicine constituted a necessary act similar to eating and drinking, but this particular act was one which concerned the general health of the insured, and although it came within the functions described in the statute if taken regularly and on the premises of the employer and during the hours of work it could not be regarded as an act carried out in pursuance of his calling. The department held that the natural law of self-preservation must be taken as the principal reason which led the deceased to take the medicine in order to restore his health; and that this reason was so preeminent that the consideration that the restored health would also at the same time mean increased activity and efficiency in his calling was completely overshadowed. Therefore the means taken by him to overcome his disease could not be admitted to be an act appertaining to his work. Consequently, if, as in this case, the insured made a mistake in the medicine which he took and thereby caused himself injury, then he incurred a risk which he had originated himself in pursuance of a cause or reason appertaining to his personal health and one which had no causal connexion with the working of the factory in which he was employed. Compensation was therefore refused.

THE WILL OF SIR THOMAS BROWNE.

To the Editors of THE LANCET.

SIRS,—"S. B. A." is certainly mistaken in thinking that the will of Sir Thomas Browne contains the instruction he quotes—viz., "My soul to God who gave it, and my body on signs of putrefaction to my executors." No such clause occurs in it. In my pamphlet respecting the early life of Sir Thomas Browne, which you so kindly reviewed on Dec. 15th, an exact copy of the will is given, taken from an engraved facsimile of the original, which is to be seen in the district probate registry at Norwich. I am, Sirs, yours faithfully,

Norwich, Dec. 24th, 1906. CHARLES WILLIAMS.

THE ANTIQUITY OF THE "SEA VOYAGE."

To the Editors of THE LANCET.

SIRS,—In an annotation under the above heading in THE LANCET of Dec. 15th, p. 1679, it was shown that the purity of the atmosphere was held to be an important factor in the treatment of pulmonary tuberculosis so long ago as the middle of the eighteenth century. The following quotation from a book of that period (1758), as well as being confirmatory of that fact, is peculiarly anticipative of the "high altitude" treatment so general to-day, and is withal in close agreement with certain observations contained in another annotation in the same issue—that on the aeroplane at p. 1674. I therefore ask permission to introduce it to the notice of your readers. The writer, Mr. Olaf Soderberg, in closing his "Account of a Consumption proceeding from the Situation of a Place," says.—

> "Our Ancestors chose to have their Places of Residence on Hills and rising Grounds, that they might always have fresh Air, an open Prospect and running Water. On the contrary our Towns and Villages lie low, for the conveniency of Water; but the former incontestably enjoyed a more healthful and longer Life than we do.
>
> Physicians have long since observed, that the Inhabitants of high Countries are not so much afflicted with pulmonic Disorders, as those of a lower Situation; and therefore they advise such as have weak Lungs to remove among the fresh Air and pure Water of the Mountains. This Account would show the Importance of well perflated Houses and healthy Dwellings against pectoral Ailments."

The book from which the above has been extracted ("Medical, Chirurgical, [and [Anatomical Cases [and [Experiments; [Communicated by Dr. Haller, and other eminent Physicians, to the Royal Academy of Sciences at Stockholm. [Translated from the Swedish Original. [Illustrated with Copper Plates.") was formerly in the possession of Jonathan Couch, a Cornish medical practitioner, who has written upon one of its blank pages the following.—

> "I know a Consumptive person who is a Sailor; when at Sea he feels comfortable and well; but if he is by any means compell'd to remain on shore for 2 or 3 days he is attack'd with monary consumption; which remain on him, notwithstan medical assistance, untill he again goes to sea.—J. C, 1809."

Jonathan Couch, it may be noted, who in his day was naturalist, had three sons by his second marriage (Richard Thomas Quiller, and John Quiller), all of whom were surgeons not Mr. A. T. Quiller Couch, so well known in the world under the pseudonym "Q," a present-day representative of stock? I am, Sirs, yours

Dec. 17th, 1906.

LOATHSOME BED-STUFFING.

To the Editors of THE LANCET.

SIRS,—Having had 20 years' experience in the bedding and rag flock I have read with great interest your under the heading of "Loathsome Bed-stuffing" and am surprised at the indifference with which the President of Government Board has treated the subject. If he could to visit a flock factory he would be so disgusted at seeing rubbish which is made up into bed fillings, without the attempt at washing or sterilising, that I feel confident he immediate steps to make the cleansing compulsory. gratulate your correspondent, Mr. J. O. Neumann, on his ledge of the trade; he does not in any way exaggerate case. We have to buy the commonest and dirtiest rags able from the marine-store dealer and he in turn from our vilest slums and ash-heaps; in fact, they are d garments of all descriptions which are too old and disreput for our poorest poor, and who knows what disease is lurking them. These rags are simply passed through a machine and torn shreds without the slightest attempt to wash and sterilise, and ow to keen competition the art of the manufacturer is to keep in as m of the filth and dirt as possible, so that he can make a small margi profit. But it is quite unnecessary to reject the material becaus has been in contact with filth, and my contention is that there nothing more hygienic, resilient, or better suited for bedding t these rags after they have been thoroughly washed and all dirt ta from them, and afterwards properly sterilised by heat. Apologi having taken up so much of your valuable space,

I am, Sirs, yours faithfully,

Bath, Dec. 19th, 1906. W. T. Elli

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G.P.—We think that such extracts should not be made from me journals and that in all probability the eminent physicians in q tion would be the first to raise objection to such a misuse of t names if the matter were brought to their attention.

COMMUNICATIONS not noticed in our present issue will receive atte in our next.

Medical Diary for the ensuing W

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (31st).—London (2 P.M.), St. Bartholomew's (1.30 P.M Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho- (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 West London (2.30 P.M.), London Throat (9.30 A.M.), Royal (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), W minster (2 P.M.), West London (2.30 P.M.), University Co (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. M (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London T (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Gol square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Ce London Throat and Ear (2 P.M.), Children, Gt. Ormond-s (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (2nd).—St. Bartholomew's (1.30 P.M.), University Col (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing ((3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's Co (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Sama (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), minster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (3rd).—St. Bartholomew's (1.30 P.M.), St. Thom (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.) George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middl (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North- London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P. Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samar

A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, rmond-street (2.30 P.M.).

(4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. as's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. hern Central (2.30 P.M.), West London (2.30 P.M.), London at (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, en-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square M.), Central London Throat and Ear (2 P.M.), Children, Gt. ond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

AY (5th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), ing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), at, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. ond-street (9.30 A.M.).

Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic), the Royal Westminster Ophthalmic (1.30 P.M.), and the London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

SDAY (2nd).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover- re, W.).—8 P.M.: A Specimen will be shown by Dr. A. Routh. ers:—Dr. A. Donald: Chronic Septic Infection of the Uterus its Appendages.—Dr. W. F. Shaw: The Pathology of Chronic itis.

DAY (3rd).—NORTH-EAST LONDON CLINICAL SOCIETY (Totten- Hospital, N.).—4 P.M.: Clinical Cases.

Y (4th).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY.— ical Meeting.

TURES, ADDRESSES, DEMONSTRATIONS, &c.

DAY (3rd).—ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN cester-square, W.C.).—6 P.M.: Chesterfield Lecture:—Dr. M. krell: Bullous and Vesicular Eruptions: V., Herpes; VI., ter; VII., Dermatitis Herpetiformis.

EDITORIAL NOTICES.

s most important that communications relating to the dal business of THE LANCET should be addressed irely "TO THE EDITORS," and not in any case to any man who may be supposed to be connected with the dal staff. It is urgently necessary that attention be to this notice.

specially requested that early intelligence of local events ting a medical interest, or which it is desirable to bring der the notice of the profession, may be sent direct to is office.

res, original articles, and reports should be written on e side of the paper only, AND WHEN ACCOMPANIED BLOCKS IT IS REQUESTED THAT THE NAME OF THE THOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD WRITTEN ON THE BLOCKS TO FACILITATE IDENTI- ICATION.

rs, whether intended for insertion or for private informa- on, must be authenticated by the names and addresses of eir writers—not necessarily for publication.

annot prescribe or recommend practitioners.

l papers containing reports or news paragraphs should be arked and addressed "To the Sub-Editor."

rs relating to the publication, sale and advertising de- artments of THE LANCET *should be addressed "To the Manager."*

cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

HE Index and Title-page to Vol. II. of 1906, which is pleted with the issue of to-day, will be given in the next ber of THE LANCET.

VOLUMES AND CASES.

OLUMES for the second half of the year 1906 will be y shortly. Bound in cloth, gilt lettered, price 18s., age extra.

Cases for binding the half year's numbers are now ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 27th, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Dec. 21	30·574	E.	...	40	39	37	37	39	Overcast
" 22	30·450	E.	—	50	39	33	34	34	Fine
" 23	30·360	W.	–	36	30	31	...	31	Overcast
" 24	30·256	W.	0·03	49	49	27	...	33	Foggy
" 25	29·750	N.W.	—	49	35	33	33	35	Fine
" 26	29·830	N.W.		42	35	32	33	35	Overcast
" 27	29·260	N.W.	0·39	49	35	25	...	33	Overcast

During the week marked copies of the following newspapers have been received: *Il Risorgimento (Malta), Liverpool Courier, Surrey Advertiser, Yorkshire Herald, Dublin Independent, Leeds Post, Sheffield Independent, Sheffield Telegraph, Westminster Gazette, Daily News, Pharmaceutical Journal, Chemical News, Standard, Daily Telegraph, Liverpool Courier, Birmingham Post, Freeman's Journal, Dublin Times, South China Morning Post, &c.*

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